

Gray

Phanerogamia Part II

Mr

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Botany

Phanerogamia continued.

Ord. Caprifoliacea, ...

1. Sambucus, Tourn.

1. Sambucus javanica, Reinw.

Sambucus javanica, Reinw. in Blume,  
Bijdr. p. 657; De. Prodr. 4, p. 322;  
Miq. Fl. Ind. Bat. 2, p. 124.

Hab. Luzon; in the Majajai  
Mountains. (A mere fragment, with  
fruits fallen from the inflorescence.)

2. Sambucus tripetalus, Lindl.

Sambucus tripetalus, Lindl. in Mitch.  
Jour. Ac. Natl.

S. tuberosa, R. Br. & Bauer, De. ined.

Hab. New South Wales? The specimen  
was in a package marked "Bay of Islands,  
New Zealand"; but it was probably collected in  
Australia.



## 2. Alseuosmia, A. Bunn.

Alseuosmia, A. Bunn. (Spec. Bot. N. Zeal.,  
~~Prodr. Fl.~~ A. Zeal. in Ann. & Mag. Nat.  
 Hist. 2. p. 209; Hook. f. Fl. N. Zeal.  
 1. p. 102.

### 1. Alseuosmia macrophylla, A. Bunn.

Alseuosmia macrophylla, A. Bunn. l.c.;  
 Hook. f. Fl. N. Zeal. 1. p. 102, t. 23.

Hab. Bay of Islands, New Zealand. (In fruit.)

### 1. Alseuosmia quercifolia, A. Bunn. <sup>l.c.</sup>

Hab. Bay of Islands, New Zealand.

Dr. Stoker, who has reduced several  
 of Cunningham's species might have  
 referred this, and even all of them  
 except A. macrophylla <sup>the polymorphous</sup> to A. Banksii.

## 2. Alseuosmia Banksii, A. Bunn.

Alseuosmia Banksii, atriplicifolia, &  
paleiformis, A. Bunn. l.c.

A. Banksii, Hook. f. Fl. N. Zeal. 1. p. 102,  
 t. 24.

Hab. Bay of Islands, N. New Zealand.  
 (In very various forms.)



1  
Ord. Rubiaceae.

~~Subord. I. Stettatae.~~

1. Rubia, Tourn.

1. Rubia angustifolia, Lin.

Hab. Madeira; between Funchal and Santa Anna. (A variety of R. tinctoria, no doubt.)

2. Galium, Tourn.

1. Galium Kelburn, Endl.

(~~Walp. Repert. 2. p. 459~~)  
Galium Kelburn, Endl. Gen. p. 523; Gay,  
Fl. Chil. 3. p. 186.

Rubia Kelburn, Cham. & Schlecht. in  
Linnaea, 3. p. 229; Ob. Prodr. 4. p. 592.

Hab. Chili, near Valparaiso and  
Santiago. Peru, near Callao. Brazil,



in the Organ Mountains; the same as Rubia affinis, Yard.; ~~in~~; a narrow-leaved variety. Lima: young specimens without blossoms or fruit, apparently a narrow-leaved form of the same species, and Rubia mista, H. B. K.

2. Galium ciliatum, Ruiz & Pav.

Galium ciliatum, Ruiz & Pav. Fl. Peruv. & Chil. 1. p. 59

G. involucratum, H. B. K. Nov. Gen. & Spec. 3. p. 334.

Rubia ciliata, De Prodr. 4. p. 591.

Hab. Obrajillo, Peru. (Imperfect specimens, the corolla not present.)

3. Galium chilense, En H. l. c.

Galium chilense & Richardianum, Gay, Fl. Chil. 3. p. 180, 183, non Hook.  
Rubia chilensis, Molina? De Prodr. 4. p. 590.

R. Richardiana & R. pusilla, Gillies, in Hook. & Arn. Bot. Misc. 3. p. 362.

Hab. Rio Negro, North Patagonia.

4. Galium Gilliesii, Hook. & Arn.

Galium Gilliesii, Hook. & Arn. Bot. Misc. 3. p. 364; Gay, Fl. Chil. l. c.  
G. trichocarpum, Gay, l. c. & specim., vix ab.

Hab. High Andes near Santiago, Chile.



5. Galium suffruticosum. Hook. & Arn.

Galium suffruticosum, Hook. & Arn. Bot.  
misc. 3. p. 363; Gay, l.c.

Hab. Chili, near Santiago.

6. Galium Chamissonis. Hook. & Arn. <sup>l.c.</sup>

Hab. Valparaiso, Chili. (Perhaps  
not distinct from the following species.)

7. Galium Aparine, Lin.

Hab. Orange Harbor, Freigia.

This can hardly have been introduced into the Antarctic regions, where it was found in the time of Cook's voyage, and has since been detected at various stations. In the United States, at least on the eastern side of the continent it does not occur in such situations as to appear unequivocally indigenous.



4

but the evidence on the <sup>whole</sup> favors the conclusion that it is so.

8. Galium productum, Lowe.

Galium productum, Lowe, in Trans. Camb.,  
Phil. Soc. 4, p. 29.

Stat. Madeira.

9. Galium piliiferum, H. B. K.

Galium piliiferum, H. B. K., Nov. Gen. &  
Spec. 3, p. 337; Lab. Prodr. 4, p. 612.

Stat. Peru, near Baños.

The peduncles are solitary at the end of the branches and short. Still the plant is ~~most~~ <sup>at the ~~angle~~, being</sup> doubtless belongs to this species; ~~being~~ <sup>being</sup> wholly in fruit, the character of a campanulate corolla cannot be verified.



5  
10. Galium obovatum, H. B. K.

Galium obovatum, H. B. K. Nov. Gen.  
& Spec. 3. p. 334, t. 278.

(Peru, near.)  
Hab. Obrajillo.

11. Galium Antarcticum, Hook. f.

Galium Antarcticum, Hook. f. Fl.  
Antarct. 2. p. 303.

G. trifidum, D'Urville; Gaudich. Bot.  
Freye. Voy. p. 135.

Hab. Orange Harbor. Fuegia.

12. Galium propinquum, A. Cunn.

Galium propinquum, A. Cunn. Spec.

Bot. N. Zeal. l. c. p. 207; Hook. f.

Fl. N. Zeal. l. p. 113.

G. umbrosum, Soland. in Hort. Prodr. no. 500, descrip.

Hab. Lord Auckland Islands.



This is Stokes's variety hispidu-  
lum; but the leaves are hispido-cili-  
atis, rather than "ciliato-pilosis." Dr.  
 Stokes did not collect this, nor any other  
Galium upon the ~~Land~~ Auckland Islands,  
 where, however, almost any New Zealand  
 and herbaceous species might be expected.

13. Galium vagans, Stok. f.

Galium vagans, Stok. f. in Land. Jour.  
Bot. 6. p. 461, & Jl. Tasm. 1. p. 170.

Stab. Hunter's River, New South  
Wales.

14. Galium Gandichandi, St.

Stab. Hunter's River, New South  
Wales.

This must be DeCandolle's G. Gau-  
chandi, which came from Port Jackson.  
 But it is nearly allied to Dr. Stokes's G. cil-  
iare, figured in the Flora of Tasmania.



~~Subord. II. Cinchonaceae~~

3.

3. Phyllis, Linn.

1. Phyllis Nobla, Linn.

Hab. Madeira; on dry rocks near San Vicente, S. Found also by Dr. Vogel on the Corral. Formerly known from the Canary Islands only.

4. Coprosma, Forst.

A peculiarly South Sea genus, most conspicuous and most numerous in species in New Zealand, found in the northern hemisphere only in the Sandwich Islands, lat.  $19^{\circ}$  -  $22^{\circ}$ . From this group we have six species, all now



Dr As a grey

Long before Clos published his *Redyotis*  
*repens* (which you make out to be an  
connecting link between *Coprosma* and  
*Arctostaphylos*, calling it *Coprosma calycina*)  
the plant had been described by Arnott  
in the III<sup>rd</sup> vol of *Hooker's Journal* of bot.  
which thus pointed out its close affinity  
to *Coprosma* —



*Japonica* M.B.

*californica* L

*alba* L

*subfragilis* And.

*purpurea* L

*radicicola* L



Published for the first time, although  
 all but one have laid long in  
 herbaria, and the two most remark-  
 able, <sup>(*C. rhynchocarpa* and *C. ernodeoides*)</sup> were gathered one of them by  
 Nelson in Cook's last voyage, the  
 other ~~by Nelson~~ in Vancouver's Voyage.  
 (as well as *C. Menziesii*, by Menzies)

\* Australica.

1. Coprosma Billardieri, Hook. f.

Coprosma Billardieri, Hook. f. in Lond.  
 Jour. Bot. b. p. 465, & Fl. Tasman. 1. p.

165. Canthium quadrifidum, Labill. Fl. N. Holl. 1. p. 1  
Marquisia Billardieri, ~~Fl. Tasman. 4. p.~~ A. Rich. <sup>(69. t. 94.)</sup>



7  
Rub. (in Mem. Soc. Hist. Nat. Par.  
5) p. 112; DC. Prodr. 4, p. 477.

Hab. New South Wales, near Sydney.

\*\* Novo-Zelandica et Aucklandica.

2. Coprosma grandifolia, Hook. f.

Coprosma grandifolia, Hook. f. Fl.  
N. Zeal. 1, p. 104

Ronabea australis, A. Rich.

Hab. Bay of Islands, New Zealand.  
In flower and fruit.

We adopt Hooker's name since  
our specimens plainly belong to his  
C. grandifolia; but we remark that the  
stamens, lobes of the corolla, and the dis-  
tinct teeth of the calyx are often as many  
as six, ~~and that if he had not~~  
If Dr. Hooker had not pointedly assured  
us that this, C. lucida, and Kaul's



*C. robusta* were <sup>very</sup> distinct species, we should have been disposed to unite them, as Forster probably did, under one species.

3. Coprosma robusta, Kaoul.

*Coprosma robusta*, Kaoul, ~~Pl. N. Zed.~~  
in Ann. Sci. Nat. ser. 3, 2, p. 121, &  
Pl. N. Zed. p. 23, t. 21; Hook f. l. c.

Stat. Bay of Islands, New Zealand;  
in fruit.

For this species (and not, as does Dr. Hooker, to the preceding), Kaoul refers the Korabea australis of A. Richard. We suspect that <sup>maybe</sup> ~~this~~ is, in part at least, the type of Forster's *C. lucida*. The specimen communicated under this name by Forster to the Banksian herbarium has ~~an~~ rather small leaves and short peduncles.



11  
4. Coprosma foetidissima, Forst.

Coprosma foetidissima, Forst. l. c. ; Hook. f.  
Fl. Antarc. 1. p. 20, t. 13. & Fl. N. Zeal.  
1. p. 105.

Hab. Auckland Islands. (A  
plant of abominable stench.)

5. Coprosma spathulata, A. Cunn.

Coprosma spathulata, A. Cunn.  
Spec. Fl. N. Zeal. l. c. p. 207; Hook.  
f. Fl. N. Zeal. l. c.

Hab. Bay of Islands, New Zealand.  
In fruit.

6. Coprosma rhamnoides, A. Cunn. <sup>l. c.</sup>

Hab. Bay of Islands, New Zealand.  
In fruit.



7. Coprosma propinqua, A. Bunn. l.c.

Hab. Bay of Islands, and Waiarua Bay, New Zealand.

The collection comprises the larger form, approaching C. foetidissima in appearance, and confounded by Cunningham with that <sup>var. minor</sup> species, and var. linearifolia, Hook. f. a very narrow-leaved state, as well as intermediate specimens. All with fruit only. This and the related species are fully characterized by Dr. Hooker.

8. Coprosma acroza, A. Bunn. l.c.

Hab. Waiarua Bay, New Zealand.

9. Coprosma rotundifolia, A. Bunn. l.c.

Hab. Waiarua Bay, New Zealand.  
In foliage only; neither flowers nor fruit;  
a form with small and pointed leaves.



10. Coprosma cuneata, Hook. f.

Coprosma cuneata, Hook. f. Fl. Antarc.  
l. p. 21, t. 15, & Fl. N. Zeal. l. p. 110.

Hab. Auckland Islands.

11. Coprosma repens, Hook. f.

Coprosma repens, Hook. f. Fl. Antarc.  
l. c. t. 16, & Fl. N. Zeal. l. c.

Hab. Auckland Islands.

Austro-  
\*\*\* } Oceania,

(Tab. )

12. Coprosma persicæfolia, sp. nov.

C. <sup>fruticosa,</sup> glabra, dioica; stipulis <sup>(connatis)</sup> late trian-  
gulatis cuspidatis; foliis membranaceis  
penninerviis lanceolatis sensim  
acuminatis, petiolo brevi; peduncu-  
lis brevissimis paucifloris; calycis lim-  
bo vix dentato; corolla profunde



14  
quadrifida; drupa oblonga.

Meli.

Hab. Orolan and Nanua-levu,  
Fiji Islands.

Apparently an erect shrub, with slender branches: internodes very short; the nodes strongly annulate by the short and nearly persistent stipules. The leaves, especially on the more vigorous shoots, may be likened to those of the Beach; (whence the specific name), only they are of smaller size, 3 or 4 inches long, and two-thirds or three-quarters of an inch in width; on some specimens of only half this size. They are membranaceous, broadly lanceolate, tapering above gradually to a point, and at the base abruptly contracted into a petiole of 3 or 4 lines in length, glabrous, dull, scarcely paler beneath, where they are rather prominently feather-veined; the base of each primary vein <sup>(underneath)</sup> curiously enlarged into a thick and broad, solid, or at length cup-shaped, glandular-looking body. Inflorescence in the axils not ~~longer than the~~ exceeding the petiole.



Peduncles from one to three in each axil, very short, each bearing ~~about~~ <sup>(very small sessile)</sup> three, or perhaps more flowers. Ovary bibracteolate. Limb of the calyx truncate and very obscurely about ~~four~~ <sup>4-</sup> toothed. Corolla not more than a line long, deeply 4-cleft. The slender papillose styles much exserted. Young fruit narrowly oblong. - The above relates to the female plant alone; no specimens with male flowers were collected, so that the ~~plant~~ species is probably dioecious.

13. Coprosma Taitensis. Sp. Nov.

C. ? glaberrima, pruticosa; stipulis triangulatis acutis subconnatis persistentibus; foliis vix coriaceis oblongis obtusis basi in petiolum angustatis; pedunculis brevissimis vel breviusculis 2-5-floris; drupa obovato-globosa, apice nuda.

(Society Islands)

Hab. Tahiti; in forests on the ~~the~~ mountains.



2

(wholly)  
Shrub 6 to 8 feet high, glabrous.  
Stipules much smaller and shorter than in  
*C. robusta*, more persistent, united at the base.  
Leaves between chartaceous and coriaceous  
in texture,  $1\frac{1}{2}$  or 2 inches long, 8 to 10 lines  
wide, oblong or elliptical, obtuse, the base  
narrowed into a petiole of 2 or 3 lines in length.  
Flowers not seen. The ~~speci~~ <sup>of these</sup> two speci-  
mens are in fruit, one with the axillary  
peduncles very short, not longer than the  
fruit, and probably not more than three  
flowered; the other has the fruit-bearing  
peduncles <sup>about</sup> half an inch long, bearing 3  
or 5 spicately-arranged sessile drupes.  
These are ~~glob~~ obovate-globose, not over 2  
lines long, the calyx-line obsolete.  
Pyrene 2, thick and bony. Seed erect,  
lunate-incurved. The slender embryo and  
albumen as in the genus *Cyprosma*.

This cannot be Forster's *Coffea* *triflora*. It is apparently a new *Cyprosma*,  
allied to *C. robusta*, but the blossoms are  
~~unknown~~

unknown. Dr. Hooker's *C. petiolata*,  
from Sunday Island (Milne, in cruise  
of the *Herald*) resembles the Tahiti species,  
but ~~is~~ pubescent, with paler and  
rather rounder leaves, &c.



\*\* Sandwicensis.

(Tab. )

14. Coprosma rhynchoearpa, Sp. Nov. 1

C. puticosa, dioica, fere glabra; stipulis triangulari-acuminatis <sup>base</sup> ~~sub~~ connatis; foliis <sup>chartaceis</sup> oblongis seu lanceolato-oblongis acutis basi in petiolum gracilem attenuatis; pedunculis paucifloris pedicellisve brevissimis; fl. masc. calyce ~~brevissi-~~ ~~mo~~ subintegro, corollae 6-7 fide <sup>tubo</sup> brevioris, fl. foem. 5-6-mero, calycis tubo ultra ovarium globosum <sup>nunc breviter</sup> longissime producto (limbo cuculari breviter 5-6-dentato) super ~~legitima~~ ~~drupam~~ <sup>drupam</sup> ~~persistente~~ <sup>persistente</sup>.

Tab. Hawaii, Sandwich Islands, in the districts of Puna and Waimea, and near the Crater of Lua Pile. Also gathered by Nelson, Macrae, and Gandichand; also recently by Kemy.



Shrub with slender branches, glabrous or a little pubescent when young. Stipules triangular and more or less pointed, 2 or 3 lines long, connate at the base, more or less puberulent or silky, pubescent, deciduous. Leaves thin, chartaceous in texture, glabrous, oblong, sometimes oblong-lanceolate, acuminate or slightly pointed,  $1\frac{1}{2}$  to  $2\frac{1}{2}$  inches long, 6 to 15 lines wide, conspicuously tapering at the base into a slender petiole of 3 to 10 lines in length; the veins not conspicuous. Flowers <sup>sessile</sup> dioecious, ~~few~~ 3 to 5 in a cluster on <sup>very short, and inconspicuous</sup> a peduncle, which ~~at length~~ ~~are~~ at length may become 3 or 4 lines in length, the cluster subtended by a pair of small bracts with their stipules. ~~Calyx of the~~ Male flowers with a very short, patrifiform, nearly entire calyx, and a campanulate funnel-



3

shaped corolla, the broad limb of which is 6-7- cleft; the lobes short, oblong-lanceolate, valvate in aestivation. Stamens 6 or 7, as in the genus. Female flowers slender, ~~Ovary globular,~~ Calyx-tube prolonged beyond the globular adnate ovary into a solid and abrupt beak, twice the length of the ovary itself, and as long as the tube of the corolla (about a line and a half), bearing at its summit a small, cupulate, and irregularly but sharply more or less 5-6-toothed limb. Corolla narrowly funnel-form; the limb 5-6-cleft, with a valvate aestivation. Stamens none. Stigmas 2, very long and filiform, as in the genus. Drupe obovoid-globose, about 4 lines long, abruptly beaked by the <sup>slender epigynous</sup> ~~persistent~~ prolongation forming as it were a stipe to the abruptly somewhat dilated small limb of the calyx persistent on its summit; the whole beak varies from

one and a half to nearly three lines in length, and form a remarkable feature, which suggests the specific name. Another peculiarity, observable in our specimens, is found in the 8 to 12 longitudinal salient crests of the drupe, nearly symmetrically disposed; these are very conspicuous upon the dried fruit, and do not disappear by soaking. They belong to the sarcocarp; there are no corresponding ridges upon the cartilaginous putamen. Ovale, seed, and embryo as in the genus.

[In Remy's specimens, recently received, the fruit is destitute of the ridges above-mentioned; and the beak of the fruit does not exceed a line and a half in length; ~~and~~ in some fruits upon the same individual it is reduced to a mere neck beneath the cupulate limb of the calyx.]

Plate *Oxyrosma rhynco-*  
*carpa*: branch of a fruiting plant. Fig. 1. A  
 small branch of a fertile plant, in flower. 2. A  
 cluster of three female flowers, with their bracts  
 and stipules, shown separate at 3, spread out.  
 4. Female flower separate. 5. Section of the ovary  
 and calyx of the same. 6. A male flower. 7. Vertical



section of a fruit and its stalk. 8. Transverse section of  
the fruit. 9. Embryo detached. All except Fig. 1. magni-  
fied.

(Tab. )  
15. Coprosma longifolia, Sp. Nov. )

C. glaberrima, fruticosa; stipulis  
in vaginam oblongam coalitis e  
basi circumscissa caducis; foliis  
subcoriaceis nitidulis lanceolatis  
utrinque acutis sublonge pe-  
tiolatis; pedunculis fructiferis  
petiolo brevioribus capitato-pluri-  
floris; drupa ovoida calycis lim-  
bo brevi 5-7-dentato ~~breviter~~ apicu-  
lata.

Hab. Oahu, Sandwich Islands;  
in the mountains behind Honolulu,  
where it was also gathered by Gan-  
dichaud.

We have no flowers of this spe-  
cies. This very well marked by its  
sheathing stipules, long and narrow  
willow-like leaves, and the entire

smoothness of every part. The stipules  
 are from 4 to 6 lines in length, smooth,  
 chestnut-colored, united into a sheath  
 which is 2-4-lobed at the summit,  
 and early caducous by ~~separating~~  
 circumcission at the base and  
 also by splitting down one side.  
 Branches very leafy, the internodes  
 generally shorter than the petioles.  
 Leaves very smooth, thickish, bright  
 green, lanceolate, or broadly linear-  
 lanceolate, acute at both ends,  $2\frac{1}{2}$   
 to 4 inches long, 6 to 9 lines wide, and  
 of the same width for nearly their whole  
 length, the primary <sup>slender and</sup> veins, not prominent,  
 but very numerous: petiole ~~of~~ the  
 larger leaves almost an inch in length,  
 of the smaller about half that length.  
 Fructiferous peduncles 2 to 5 lines long,  
 bearing a capitate cluster of several ~~drupes~~,  
 (sometimes as many as 10) ovoid, red drupes,  
 of about 3 lines in length, crowned with a small,  
~~and minutely~~ 5-7-toothed limb of the calyx. Endocarp  
~~of 2~~ ~~rected~~, bony pyrene. Embryo, &c. as in the genus.



Plate <sup>23</sup> Co. Coprosma longifolia, Fig. 13,  
Drupe, of the natural size, 14, longitudinal, and 15, trans-  
verse section of the same, magnified.

16. Coprosma foliosa, Sp. Nov. (Tab. )

C. fruticosa, dioica, glabra; stipulis  
triangulari-acuminatis basi sub-  
connatis; foliis chartaceis lanceola-  
tis seu oblongo-lanceolatis utrinque  
acutis vel acuminatis, ~~in petiolis~~  
~~gracilibus~~ attenuatis; pedunculis pe-  
tolo gracili brevioribus apice pau-  
cifloris; floribus 5-7-meris; drupa  
obovato-globosa apice nuda.

Euarthronia foliosa, Nutt. ined. in  
Herb. Hook.

Hab. Oahu, Sandwich Islands,  
also collected <sup>menzies</sup> by Gaudichaud, Nuttall,  
and Seemann, and recently by Remy.

Only a fragment of the male  
plant of this being found in the  
collection, ~~it is~~ the character is completed

from specimens gathered by Seemann.  
 It most resembles *C. longi-*  
*folia*; but the <sup>caducous</sup> stipules are quite dif-  
 ferent, ~~being~~ and like those of the <sup>and</sup> other species generally, being small, acu-  
 minate from a broad base or very short  
 sheath; ~~they are~~ they are only 2 lines  
 long and pubescent, at least on their  
 margins: otherwise the plant is gla-  
 brous. The <sup>crowded</sup> leaves, also are only 1½ to  
 2 inches long, more tapering both  
 upwards and downwards, the broadest  
 part in the middle from a third to  
 half an inch in width, the texture  
 chartaceous rather than coriaceous, the  
 veins very fine and numerous: petiole from  
 a quarter to half an inch in length,  
 slender. Peduncles 1½ to 3 lines long, in  
 the male plant terminated by a cluster of  
 only 3 or 4 sessile flowers involucre by  
 a ~~very small~~ pair of bracts or reduced leaves  
 shorter than the corolla accompanied as  
 usual by its pair of stipules: Calyx (male)  
 pateriform, minutely 6-7-toothed, shorter than



the tube or contracted base of the 6-7-  
clift corolla. Stamens 6 or 7. Female  
flowers not observed. Drupes in the  
specimens solitary, obovate-globose, ~~long~~  
with a rounded naked summit, the  
limb of the calyx obsolete.

The species is quite intermediate  
between C. longifolia and C. Menziesii,  
var. B.

Plate      B.      Cypripedium foliosum.

- Fig. 10. Fruit and leaves, of the natural size.  
11. Magnified vertical section of a drupe.  
12. Embryo from the same.

17. *Coprosma pubens*, Sp. Nov.

*C. fruticosa*, dioica; stipulis late  
deltoides ~~late~~ connatis strigoso-seri-  
cis; foliis chartaceis obovato-oblongis  
oblongisve basi in petiolum attenua-  
tis supra glabris subtus reticu-  
lato-venosis ramulisque pubescenti-  
bus; pedunculis petiolo brevioribus  
vel subnullis; floribus confertis, mas-  
culis 6-7-meris, calyce irregulari,  
corolla breviter infundibuliformi. —

Variat, a. drupis secus ramos fere subs-  
sessilibus basi bibracteolatis ovoides  
rostello brevi apiculatis, et

Var. B. <sup>Kauensis!</sup> drupis obovatis obtusissimis <sup>nimis</sup> pluf-

sessilibus in pedunculo communis. ~~hab.~~

Hab.

Hab. Forest and high Bullock  
plains on the side of Mouna Kea,  
Hawaii; Var. B. <sup>Mountains of</sup> Kauai, Sandwich Islands.



Apparently a much branched and straggling shrub, dioecious; the <sup>more or less hairy</sup> branchlets of the female plant <sup>below</sup> squarrose with the crowded vestiges of stipules, abbreviated peduncles, &c., the leaves crowded at their summit. Stipules <sup>broadly</sup> dilated-triangular,  $1\frac{1}{2}$  to 3 lines long, connate for nearly half their length, strigose externally with an appressed silky-hirsute pubescence which is more or less deciduous. Leaves of a firm ~~but rather~~ ~~thin~~ texture but rather thin, dull, glabrous above except a slight pubescence on the midrib and principal veins, but <sup>and pale</sup> downy with a short pubescence beneath, especially on the midrib and the numerous rather prominent veins and reticulated veinlets,  $1\frac{1}{2}$  to  $2\frac{3}{4}$  inches long, at most one inch broad, obovate- or ovate-oblong, obtuse, below tapering gradually into a rather slender petiole of a quarter or half an inch in length. We possess

one specimen with male flowers,  
another with fruit, but no female  
flowers. Male flowers several in a  
loose head subtended by a pair of foli-  
aceous bracts of ~~size~~ <sup>commonly</sup> about the length  
of the flower-bud, and raised on a  
peduncle of not more than 3 lines in length.  
Calyx, <sup>nearly</sup> 2 lines long, campanulate, irreg-  
ular, being unequally cleft into 3 or 4  
short and broad lobes, and some of these  
2-toothed at the apex. Corolla 3 or 4  
lines long, short-infundibuliform, the  
narrow tube expanding into a broad  
throat or limb divided into 6 or 7 oc-  
casionally 7 lanceolate lobes. Stamens  
as many, nearly or quite free from the  
corolla, with the at length elongated  
filaments and large ~~and linear~~ pointed  
anthers of the genus. The fruiting-  
specimen (from Hawaii) bears apparently  
single drupes on peduncles of only a  
line or at most a line and a half in



length, the drupes are ovoid, 4 lines long, and generally pointed with an abrupt beak about half a line long, on which there is no trace of a calyx-teeth. ~~The~~ Its structure and that of the seed, &c. are as in the genus.

The var.  $\beta$ , from the ~~known~~<sup>specimen in</sup> mountains of Kauai, is a small fruit, drupes 3 sessile upon the summit of a peduncle of a quarter or half an inch in length, and often with 2 or 3 sessile ones lower down on the peduncle, rather smaller than in var  $\alpha$ , and more obovate, the very obtuse summit <sup>and</sup> crowned with a ~~depressed~~ flat areola. The difference in the inflorescence is probably of no account; the ~~blunt~~ summit of the fruit being blunt and naked (as in most species of the genus) alone causes some hesitation in referring the specimen to the present species. An imperfect ~~specimen~~<sup>from Kauai</sup> with one or two male blossoms and smaller, less pubescent leaves probably belongs to this species.

31  
14  
18. Cypripedium Menziesii, Sp. Nov.

C. puticosa, dioica; ramis puberulis;  
 stipulis brevibus connatis sericeo-  
<sup>vel strigoso-</sup>pubescentibus; foliis obovatis seu  
 ovalibus raro oblongis <sup>reticulatis</sup> glabris;  
 pedunculis paucifloris brevibus  
 saepe aggregatis vel compositis;  
 floribus 5-11-meris; calyce cupulato  
<sup>breviter</sup>dentato; drupa subglossosa calycis  
 limbo brevi coronata. — Variat,  
 a. foliis chartaceis demum coria-  
 ceis ovalibus seu ellipticis acutis  
 vel obtusis basi in petiolum longi-  
 usculum <sup>vel</sup> brevem contractis. — β.  
<sup>minoribus</sup>foliis, fere chartaceis longiuscule peti-  
 olatis; pedunculis femineis, ~~seorsim~~  
~~ramulos breves~~ axillares geminis  
 ternisve 1-3-floris gracilibus. —  
 γ. foliis minoribus spathulatis obo-  
 vatisve crasse coriaceis in ramulos  
 confertissimos <sup>breviter petiolatis;</sup> drupis fere sessilibus.



15

31

Hab. Hawaii, Sandwich Islands.  
(~~Merz, Macrae, Douglas, Remy~~);  
(~~Sydney Bay, Macrae~~), in the districts  
of Puna and Waimea. Mountains of  
Kauai (a thick-leaved, 11-androus  
form). B. Hawaii? Gaudichaud. J.  
On Mouna Loa and Mouna Kea;  
also ~~in the~~ on the mountains of  
Maui.

This species vindicates the character  
for variability which ~~this species~~ <sup>also</sup>  
the genus is noted for in the New Zealand  
and Flora. Indeed the woody plants of  
the Pacific islands generally seem to be  
remarkably polymorphous. Detached  
specimens of this single species, as I  
must regard it, would undoubtedly  
be referred to three or four different types.  
The more luxuriant and thinner-  
leaved forms <sup>were</sup> probably collected in for-  
ests; those ~~with~~ thick- and smaller leaves,  
crowded on stout branches or their rigid  
spurs or ~~tra~~ short branchlets, are from

the naked and exposed region of the mountains above the limit of trees — Branches in all more or less pubescent when young. Stipules short and broad, <sup>generally acute or pointed,</sup> more pubescent, especially in the condensed forms, where they are rather persistent. Leaves always glabrous,  $1\frac{1}{2}$  or 2 inches, or in var.  $\gamma$ , reduced to an inch or less in length, obtuse, <sup>absolutely</sup> acute, or rounded at the apex, acute or tapering at the base, dull, the primary veins slender and numerous, the veinlets much reticulated; petioles 2 to 5 lines long. Flowers dioecious. Peduncles solitary or 2 or 3 together from the axils or from axillary and leafy-bracted short spurs, those of the male flowers very short; of the female 2 to 3 lines long, or in var.  $\beta$ , 3 to 5 lines long, bearing from one to three flowers; in var.  $\gamma$ , both the male and flowers and the fruit sessile or nearly so in the axil, or on short spurs. Calyx of the male flowers patenteriform, the margin acutely denticulate; its adnate tube



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in the female flowers ovoid, <sup>(more or less)</sup> contracted under  
the small and cupulate 5-9-toothed limb.  
Corolla short-funnel form, usually 7-9-  
clft, rarely 5-clft, <sup>in</sup> the male flowers  
of one specimen 11-clft, and the sta-  
mens of the same number: Filaments,  
anthers, &c. as in the genus. <sup>Stigmas</sup> ~~Style~~ some-  
times 3 or 4, very long. Drupes globu-  
lar, about 3 lines long at maturity,  
~~expanded with~~ not produced at the apex, but  
crowned with the short sometimes rather  
conspicuous 5-9-toothed <sup>remains of the</sup> ~~limb~~ limb of the  
calyx. Pyrene long. Albumen and seed  
as in the genus.

A form of var.  $\beta$ , with remarkably  
acute leaves approaches *C. acutifolia*, Hook.  
f., in Hook. f., from Normande group,  
Lousiade Archipelago?

19. Coprosma ernodeoides, Sp. Ar.

C. fruticosa, procumbens, dioica, gla-  
bra (nisi ramulis jun. ramis juni-  
oribus); stipulis brevissimis connatis;  
foliis confertissimis parvis sub-  
linearibus crassis aveniis nitidis  
<sup>sempervirentibus</sup> ~~marginibus~~ parce hispidulis; floribus  
~~sessilibus~~ <sup>famineis</sup> sessilibus ram-  
ulos terminantibus ~~totis~~ 4-meris;  
corolla tubulosa; ~~infundibuliformi~~.  
drupa globosa.

Hab. Hawaii, Sandwich Islands;  
on the lava-plains and near the  
crater of Lua Pele. Also long  
since collected by Menzies, and more  
recently by the <sup>late</sup> Rev. J. Dill, and lately  
by Remy.

A procumbent shrubby plant,  
glabrous, except a minute pubescence  
on the youngest parts, especially the long  
and trailing branches. These, and still



31

12

more than numerous short and rigid branchlets are thickly covered with the linear or linear-oblong, thick, and rigid, shining, sessile, acute or obtusish, ~~veinless~~ evergreen leaves. These on vigorous shoots are about half an inch long and a line and a half wide, on the lateral branchlets generally shorter and blunter, the midrib rather evident, but no veins are visible; the whole surface minutely and thickly punctate under a lens, the acute margins sparsely ~~beset with~~ ciliate with short bristles. Stipules very short, blunt or truncate, rather hairy, connate with ~~each~~ the base of the leaf on each side. Male blossoms not seen. Female flowers solitary and sessile at the apex of the branchlets, their long stigmas projecting from among the leaves. Limb of the calyx nearly as long as the short tube, deeply 4-cleft; the lobes oblong-lanceolate. Corolla 3

lines long, tubular, slightly infundibuliform, 4-lobed at the apex. Stigmas nearly an inch in length. Drupes globose, nearly half an inch long when <sup>black</sup> mature, <sup>black? - crowned with the 4</sup> ~~with a~~ distinct small calyx-teeth: <sup>sarcocarp</sup> ~~sarcocarp~~. Very copious ~~and~~ ~~the~~ ~~sarcocarp~~. Pyrene small, plano-convex, between cartilaginous and bony, smooth. Seed erect. Embryo almost as long as the firm fleshy albumen; cotyledons oval.

A strikingly well-marked species with aspect and foliage so like Ernodea littoralis as to suggest the specific name here applied to it.

It appears that Coprosma calycina, <sup>may</sup> in Proceed. Amer. Acad. 4, p. 18. was published by Arnott, almost twenty years before, under the name of Leptostigma, in Hook. Jour. Bot. 3. p. 270. (L. Arnottianum, Walp.), and its affinity to Coprosma pointed out. The genus I suppose will merge in Coprosma.



37  
5. Nertera, Banks Island.

1. Nertera depressa, Banks Island.

Hab. Orange Harbour, Fuegia, Mountains of Tahiti, Society Islands, Mountains of Oahu and Hawaii, Sandwich Islands. Majaijai Mountains, Luzon; the forma acutifolia of Miquel.

The <sup>habitats</sup> ~~stations~~ in the Society and Sandwich Islands are new, but not unexpected for a plant so widely diffused over the remotest parts of the Southern Hemisphere, and in ~~the~~ America reaching to Venezuela, and even to the mountains of Cuba, if some narrower-leaved specimens gathered by Mr. Wright, without flowers or fruit belong here. The Sandwich Islands, lying under the northern tropic, afford the most northern station known. New Zealand, ~~and Tasmania~~, the Auckland Islands, the Falklands, Tristan d'Acunha, Tasmania, Java, Luzon, & and <sup>probably</sup> ~~perhaps~~ Madagascar <sup>of this little plant.</sup> are other habitats. The specimens from Luzon have acute leaves (though broadly ovate or subcordate), and are probably the same as those of Burninghamii, which Dr. Hooker inclined to refer to his N. burninghamii of New Zealand. This, according to Miquel, is the prevailing form in the Indian Archipelago, and is probably not really distinct from N. depressa.

2. Nertera dichondraefolia, Hook. f.

Nertera dichondraefolia, Hook. f. Fl. N.

Zeal. 1. p. 112, t. 28.

N. gracilis, Raul. Prodr. Ann. Sci. Nat. l. c. p. 121.

Crotophila? dichondraefolia, A. Cunn. Spec. Bot. N. Zeal. l. c. p. 208.

Tab. Bay of Islands, New Zealand,

(The only part of the world where N. depressa is associated with other species.)



6. Pomax, Soland.

1. Pomax umbellata, Soland.

Pomax umbellata, Soland. in Garton. Fruct.

1. p. 42, t. 24; A. Rich. Mem. Rub.

Opercularia umbellata, Luss. in ~~Alleg. Ann.~~ Mus. Par. 40, p. 42b.  
 { Garton, l.c. }

Var. a. Nirta.

Pomax nirta, DC. Prodr. 4, p. 615.

Var. β. glabra.

Pomax glabra, DC. Prodr. 4, p. 615.

Hab. Sydney and Hunter's River  
 New South Wales. Both varieties, and  
 an intermediate form.

40  
7. Opercularia, Gortn.

1. Opercularia paleata, Young.

Opercularia paleata, Young in Lin.  
Trans. 3. p. 30. t. 5; Juss. in Ann.  
Mus. Par. l.c.; DB. Prodr. 4. p. 116.

O. ocyroides, rubioides, & ligustri-  
folia, Juss. l.c.?

Hab. New South Wales; near  
Sydney, Cook's River. &c. (New Zealand  
and ?)

These larger and broad-leaved forms  
all appear to belong to one polymor-  
phous species, which perhaps is <sup>the original</sup> O.  
aspera and O. diphylla of Gortner,  
one or both. One of our specimens,  
indeed, with oblong and ovate leaves and  
considerable hairiness, is ticketed as from  
the Bay of Islands, New Zealand. But  
some plants undoubtedly gathered at Sydney  
have been erroneously so ticketed.  
The reason for suspecting such mistake



41  
in the present instance is that  
no one else since Borke's Voyage  
has collected an Opercularia in  
New Zealand, which could hardly be  
if any grow around the Bay of Islands.  
Perhaps the original species are really  
Australian, and this should take the  
name of O. diphylla.

2. Opercularia hispida, Speng.

Opercularia hispida, Speng., Syst. 1. p. 385,

Ob. Prodr. 4, p. 615.

O. aspera, Juss. in Ann. Mus. Par. l.c.  
p. 427, t. 70, f. 1.

Hab. Hunter's River, New South Wales.

3. Opercularia myrsinifolia, Juss.

Opercularia myrsinifolia, Juss. in Ann. Mus.  
Par. l.c. t. 71, f. 1; Ob. l.c.

Hab. Sydney, New South Wales.

42  
4. Opercularia sessiliflora, Juss.

Opercularia sessiliflora, Juss. in Ann.  
Mus. Par. Nat. t. 70. p. 2; DC. l.c.

Hab. Sydney, New South Wales. A  
depauperate and smaller-leaved form.



8. Spermacoe, Linn.

Spermacoe & Borreria, G. Meyer. Fl. Esseq.  
p. 79; Db. Prodr. 4. p. 540, 552.

1. Spermacoe (Borreria) verticillata, Linn.

Spermacoe verticillata, Linn. Spec. 1. p.

102 (Dill. Coll. p. 369, t. 276, f. ~~276~~ 358.

Borreria verticillata, G. Meyer. Fl. Esseq. p. 83;  
Db. l. c.

Borreria Kohautiana, Cham. & Schlecht.  
in Linnaea, 3. p. 311; Db. l. c.; Webb. Spic.  
Grog. & Benth. Fl. Nigr. in Nigr. Fl.  
p. 133, 422.

Bigelovia verticillata & commutata, Sprang.  
Syst. 1. p. 404.

Hab. Rio Janeiro, Brazil. St. Jago,  
Cape de Verde Islands.

No good marks appear to distinguish  
the African from American forms which  
Linnaeus united in his Spermacoe verticillata.  
The fruit is glabrous in our specimens from St.

Jago, and their dehiscence is the same in both.

The difference between ~~Asterum~~ Borreria and Spermacece, if not unimportant in character, are not always sufficiently marked to render a generic separation advisable.

2. Spermacece (Borreria) ferruginea, St. Hil.

Spermacece ferruginea, St. Hil. Pl. Mus. Bras.  
no. 13, t. 13.

Borreria ferruginea, Db. Prodr. 4, p. 547.

Hab. Rio Janeiro, Brazil.

3. Spermacece (Borreria) asperula, <sup>(L. C.?)</sup> Db. ~~Prodr.~~

Hab. Rio Janeiro, Brazil. (Specimens too young for proper determination.)



6. Spermacoe (Borreria) Roxburghiana, <sup>Wall.</sup>

Spermacoe Roxburghiana, Wall. Cat.  
no. 6186.

Borreria Roxburghiana, Thght. & Arn.  
Prodr. Fl. Ind. Or. 1. p. 437.

Hab. Luzon, near Manilla.

7. Spermacoe articularis, Linn. f.

Hab. Singapore. ~~A~~ One of the  
states varying into S. hispida.

8. Spermacoe tenuior, Linn.

Hab. St. Jago, Cape de Verde Islands.

Rio Janeiro, Brazil. Callao, Peru.

4. Spermacoce (Borreria) parviflora.

Borreria parviflora, Meyer, Fl. Essq. p. 83; Db.  
Prodr. 4, p. 554; Benth. in Rost. Rub. Amer.  
Centr. p. 4.

B. ramisparsa, Db. l.c. (Spermacoce ramisparsa,  
Pohl. in Db.)

B. prostrata, Miq. Stirp. Surinam. p. 177.

Hab. St. Jago, Cape de Verde Islands.  
(Not before enumerated as from the Canaries.)  
these islands.

5. Spermacoce (Borreria) alata, Aublet.

Var. hirsutula: pube brevi scabro-hirta,  
foliis obovatis obtusis.

Hab. Rio Janeiro, Brazil.

The Guiana Plant as described  
by Aublet and by DeCandolle is said  
to be glabrous. But Hostmann's no.  
975, which otherwise accords with Aublet's  
figure, is little less hairy than our speci-  
men from Brazil, which, however, has  
rounder leaves. The in both is short-obovate,  
and ~~dehiscent~~ both cocci are dehiscent  
in the manner of Borreria. The angles of  
the stem are strongly winged.



9. *Diodia*, Linn.

1. *Diodia maritima*, Schum., DC.

Hab. St. Jago, Cape de Verde Island,  
not before recorded from these islands; but  
a native of the adjacent parts of the  
continent.

2. *Diodia conferta*, DC.

*Diodia conferta*, DC. Prodr. 4, p. 563.

Hab. Rio Janeiro, Brazil.

Only a single specimen was collected; but it suffices to ~~complete the~~ give the characters of the flower and the fruit, both of which were unknown to Seba-dille, who <sup>established the species</sup> ~~described~~ from a barren plant. — Leaves half an inch or less in length; the lower oblong; the upper ovate or slightly cordate, all closely <sup>anistate-apiculate</sup> ~~pinnate~~. The strong and numerous setae of the stipules are about the length of the internodes, even when these are most developed, as ~~at~~ in the middle

of the stem. Corolla funnel-form,  
4 lines in length, minutely hairy.  
Calyx-teeth 4; two of them lanceolate  
and fully half the length of the fruit; the  
~~other~~ intermediate ones broad and rounded  
one half shorter. Fruit of this genus, short  
obovate and somewhat 4-sided, densely  
~~clothed with~~ hispid with long and  
white bristles, in the manner of some  
Galia.

10. Triodon, Db.

1. Triodon glomeratus, Db.

Triodon glomeratus, Db. Prodr. 4. p. 566  
Diodia Brasiliensis, Spring. Syst. 1. p. 406.

Hab. Organ Mountains, near Rio Janeiro,  
Brazil.

2. Triodon ~~laxus~~ paradoxus.

Diodia paradoxa, Cham. in Linnaea. 9. p. 216.

Hab. Organ Mountains, near Rio Janeiro, Brazil.



This ~~is~~ belongs to the genus *Tridodon* and is related, not to the other Brazilian species, but to the Lintensian *T. laxus* of Burtham.

11. Richardsonia, Kunth.

1. Richardsonia scabra, St. Hil.

Hab. Rio Janeiro, Brazil. Widely dispersed over all the warmer parts of America. It is adventive in California, but probably of recent introduction. Remy found it at the Sandwich Islands.

12. Cruckshanksia, Hook. & Arn.

1. Cruckshanksia hymenodon, Hook & Arn.

2. Cruckshanksia glacialis, Poepp. & Endl.

Hab. Andes of Chili above Santiago, near the snow-line.

50  
13. Mitracarpium, Zucc.

Mitracarpium [melius Mitracarpium],  
Zucc. in Röm. & Schult. Syst. Mant.  
3. p. 210; Cham. & Schlecht. in Linnaea  
3. p. 358; A. Rich. ~~Art.~~ Mem. Bot.  
p. 71, t. 4; Db. l.c.

1. Mitracarpium Senegalense, Db.

Mitracarpium Senegalense, Db. Prodr.  
4. p. 572, Webb, in Niger Fl. p.  
133.

Hab. The specimen was ticketed  
"Rio"; but it is more likely to have  
been gathered at the port last pre-  
viously visited, namely St. Jago, Cape  
de Verde Islands.

2. Mitracarpium Salzmannianum, Db. l.c.

Hab. Rio Janeiro, Brazil.



51  
14 Knoxia, Linn.

1. Knoxia corymbosa, Willd.

Knoxia corymbosa, Willd. Spec. 1. p. 582;  
Might. & Arn. Prodr. 1. p. 439.

K. exserta & K. teres, DC. Prodr. 4. p. 569.

Hab. Caldera, Mindanao, Philippine  
Islands. A narrow-leaved form.

15. Emmeorhiza, Pohl.

1. Emmeorhiza Brasiliensis, Pohl.

Emmeorhiza Brasiliensis, Pohl, in Flora, 1835,  
p. 183, Endl. Gen. p. 565; Benth. in Linn. 23. p. 465.

Endlicheria Brasiliensis, Presl, Synb. Bot.  
1. p. 73, t. 49.

Borreria umbellata, Sprng. & Machonia Brasiliensis,  
DC. Prodr. 4. p. 551 & p. 575, fide Benth.

Hab. Organ Mountains, Brazil.

52  
16 Canthium, Lam., Benth.

If the following Cassenian species is rightly referred to Canthium by Benth. and others, ~~of which the~~ <sup>which</sup> ~~and~~ there seems no reason ~~to~~ <sup>to</sup> doubt ~~that~~ <sup>it is</sup>, — then the name of Plectroia, Burm.?, Linn., should have been adopted for the genus, being far older than that of Canthium, Lam. As this would <sup>now</sup> require great change in names, it may perhaps be avoided by laying stress upon the fact that, according to DeCandolle, N. Burmann founded the genus in part upon a Celastrus.



+ Schlecht.

1. Canthium Thunbergianum, Cham.

Plectronia ventosa, Linn. Mant. 1. p. 52; St. Prodr. 4. p. 476.

P. corymbosa N. Burm. Prodr. Fl. Cap. p. 6? A. Rich. Mem. Rub. p. 109.

Serissa Capensis, Thunb. Fl. Cap. p. 193; Bruse, Rub. Cap. p. 24. t. 2.

Hab. Cape of Good Hope. (2<sup>nd</sup> fruit.)

Arn.

2. Canthium lucidum, Hook. &

Canthium lucidum, Hook. & Arn. Bot.

Beech, Voy. p. 65.

Coffea odorata, Host. Prodr. p. 16? St. Prodr. 4. p. 503.

Myrsine umbellata, Hook. & Arn. Bot. Beech, p. 86, non St.

Hab. Orolan, Nanna-levu, and  
Somu-Somu, Feeje Islands, Kaala  
Mountains, Oahu, Sandwich Islands.

The leaves <sup>of the Feeje plant</sup> are not so lucid as in  
the original C. lucidum; but they are  
the same in structure and shape, varying,  
however into narrowly oblong forms, tapering  
above as well as below, in the Feeje  
specimens. Their lower surface, in both,

commonly bears a sort of gland in  
the axil of some of the veins in the form  
of a small ~~tuber~~ protuberance at length  
~~with~~ hollow and with a pore-like  
orifice. The corolla is parted almost  
to the base into 4, 5, or, in the  
plant from Gambier's Island some-  
times into 6 divisions. Stigma  
oblong, much thickened, <sup>size of a pea,</sup> ~~Druse of the~~  
two-celled, <sup>slightly</sup> somewhat tubercular on  
the surface. Oboles and seeds pendu-  
lous.

§ Tarotea. Corolla hyprocraterimorpha,  
tubo limbo lobis duplo longi-  
ore; antherae subsessiles mucronatae.

3. Canthium barbatum, Benth.

Canthium barbatum, Benth. in  
Hook. Niger Fl. p. 410.

Chiococca barbata, Forst. Prodr. p.  
16; DC. Prodr. 4. p. 483; Hook. & Arn.  
Bot. Beech. p. 55. t. 14; Guill. Zeph.  
Tait. p. 52.

(and Eimeo,  
Nab. Tahiti) Society Islands;  
common in deep woods near the coast.

Mr. Benthams has rightly referred  
this plant to Canthium, from which  
genus it and the preceding species  
differ only in the elongated tube of  
the corolla. The name by which the  
section may be indicated is one of the  
aboriginal names, according to Forster's  
manuscript notes, published by Guille-  
min, in the Zephyritis Taitensis. Forster's



detailed description and Hooker and Arnott's ~~figure~~ plate leave little to be desired. We have only to add that the anthers are oblong-ovate and mucronate, as Forster describes them, not didymous as represented in the plate above-cited. Ovule pendulous from the upper part of the small cell, semi-anatropous, the micropyle <sup>over</sup> superior. Fruit obovate-didymous, <sup>over</sup> half an inch in length and breadth. Pyrene 2, nearly half an inch long, between lunate and reniform, thick, rough, acutely 2-3-carinate on the back, osseous. Seed lunate, conformed to the cell: albumen fleshy. Embryo slender about half the length of the albumen: radicle superior. — Forster says there are four seeds in pairs; but all the specimens examined are dicarpellary and the cells uniovulate.

4. Canthium sessilifolium. Sp. Nov.

C. inerme, glabrum; foliis oblongo-ovatis seu ovato-lanceolatis basi rotundata fere sessilibus chartaceis supra lucidis; pedicellis solitariis vel 2-3 in axillis fasciculatis flore gracili (semi-pollicari) dimidio brevioribus; pedunculo communi vix ullo; limbo calycis 5-dentato; corollae lobis 5 tubo ~~floris~~ dimidio brevioribus; pyrenis seminibusque fere rectis angustis.

Nat. *Nanua-levu*, one of the  
Fiji Islands

An evident congener of *C. bar-*  
*batum*, but at once distinguished by  
its much <sup>lucid</sup> ~~smaller~~ <sup>and</sup> <sup>nearly</sup> sessile leaves  
with a rounded base, and the more  
slender tube to the corolla. Branches  
slender, unarmed, stipules subulate  
from a broad base, deciduous. Leaves  
from  $1\frac{1}{2}$  to nearly 3 inches long, the  
broader ones an inch wide, obtuse or  
obtusely subacuminate, indistinctly veined,  
shining above, rather dull beneath,  
perfectly glabrous, much longer than the  
internodes. There is a very short spur  
in the axils from which flowers proceed  
which may sometimes develop at length  
into a short common peduncle or rachis,  
in the manner of the preceding species.  
Pedicels 3 lines long, solitary or 2 or 3 in  
a fascicle. Calyx teeth 5, very short, acute.  
Corolla salverform; the narrow tube  
~~also~~ nearly 5 lines long; throat densely  
bearded; lobes 5, about 2 lines long.  
Anthers exserted from the ~~throat~~ throat.



oblong, abruptly mucronate, nearly sessile. Stigma a little exserted, thick, somewhat two-lobed. Ovary two-celled, with a pendulous ovule in each cell. Drupe <sup>two</sup>obovate-didymous, 3 or 4 lines long; the pyrene and the narrowly oblong seed straight, the latter suspended from near the apex. Embryo cylindrical, almost ~~as long~~ the length of the fleshy albumen; radicle superior.\*

\* Another species of this subgenus occurs in Prof. Harvey's collection in the Friendly Islands; viz. —

Canthium (Taratea) Harveyi (sp. nov.); inermis, glabrum; foliis ovato-obovatis subcoriaceis opacis subtus pallidis (2½-3½ poll. longis) apice rotundatis vel obtusis subacuminatis basi in petiolum (circ. 3 lin. longum) ang contractis; inflorescentia C. barbati; corollae tubo lobis 5 subduplo longiore. — Navau or Lifuka, Friendly Islands, W. H. Harvey, 1855. — The C. Harveyi of Seemann's list, no. 220, from the Fiji Islands, is only C. lucidum.

Simonius, Rumph.

Char. emend. Flores polygami, nuncpe  
ovario abortu sterilis et hermaphro-  
diti. Calycis limbus cupuliformis,  
truncatus vel obsolete dentatus, persistens.  
Corolla hypocrateriformis, ~~plus parietis~~ intus  
nuda; lobis 4-10 aestivatione valvatis.  
Stamina 4-10 tubo inserta; filamenta  
brevisima; antherae lineares basi  
sagittatae. Stylus apice 5-10-fidus,  
lobis subulatis inaequalibus intus  
stigmatosis. Ovarium pluriserialum mul-  
tiloculare. Ovula in loculis solitaria,  
ab apice funiculo brevissimo seu strophio-  
la cupulari suspensa. Fructus dru-  
paceus, polyspermus; pyrenis numero-  
sissimis angustis circa axem elongatam  
imbricatum et multiserialum superposi-  
tis, putamine apice <sup>(ut in Guallarydes)</sup> ~~perio.~~ ~~hermen~~  
~~lineari-oblongum~~ <sup>seminis</sup> strophiola obtusamente  
~~instar~~ ~~cla~~ suberosi instar clauso.  
Semen lineare vel oblongum; albumen  
vix ullum. Embryo semini conformis,  
cylindricus; ~~radicula~~ ~~super~~ cotyledonibus  
~~brex~~ radícula multo brevioribus. —  
Arbores vel frutices; stipulis interpetiolaribus  
Colaribus



penulatis <sup>vernatione</sup> ~~gemmarum~~ <sup>mox caducis</sup> convolutis ~~de-~~  
~~ciduis~~; foliis coriaceis seu crassiusculis,  
venulis <sup>uliginis</sup> (pagina superiore praesertim) ten-  
uissime et creberrime reticulatis; pedun-  
culis axillaribus ~~uni~~ 1-3 <sup>floris</sup> vel fl. masc.  
~~5-7 floris.~~ cymoso-5-mulifloris.

Timonius, Kunth, Herb. Ambon. 3.  
p. 216, t. 140; R. Brown, in Herb.  
Banks & Mus. ann. 1810.

Porocarpus, Gartin. Fruct. & Sem. 2, p. 473, t. 178.  
Eriothalis, Forst. Prodr.; Gartin. f. Supp. p.  
92, t. 196, non Linn.

Polyphragmon, Desf. in Mem. Mus. Par.  
6, p. 6, t. 2; A. Rich. <sup>in</sup> Herb. p. 151.

Burneya, Cham. & Schlecht. in Linnaea,  
4, p. 189, excl. sp. no. 2.

Timonius (excl. sp. & char.) & Polyphragmon,  
Dc. Prodr. 4, p. 445, 461.

Nohea (excl. syn. Gaudich.) & Polyphrag-  
mon, Korthals, in Neder. Kruidk.  
Arch. 2, p. 212, 215; Miq. Fl.  
Ind. Bat. 2, p. 234, 260.

Petesia Spec. 1, 2, Barth. in Dc. Prodr. 4, p.  
395.

61  
For information enabling me to fix  
~~clear up the charac.~~ the synonymy and  
assign the true characters of this genus  
and Tobea, I am indebted to the  
head and Nestor of our Science, Robert  
Brown. He had, nearly half a century  
ago, identified with Timonius of Rumphius  
a plant collected by Sir Joseph Banks  
at Endeavour River, and by himself on  
the same coast of tropical Australia, and  
in the Banksian herbarium had referred  
the Eriothalis of Forster to the same genus.  
The allied Sandwich Island plant was  
also known to him, in fruit, at the same  
early period, and suspected to be ~~probably~~ not  
congeneric, ~~which~~ DeCandolle<sup>in</sup> adopting  
the <sup>name</sup> ~~genus~~ Timonius, probably from the Bank-  
sian herbarium, followed Chamisso and  
Schlechtendal in referring the Sandwich  
Island plant <sup>with</sup> ~~and~~ Forster's to the same genus, but took  
the carpalological characters from the former.  
That he had no idea of the fruit of the latter  
is evident from his having referred it,  
as figured by the younger Gortner, to  
<sup>the genus</sup> Polyphragmon, Desf., which he was not  
aware is identical with Timonius of  
Rumphius. Finally, Korthals undertook  
which last (vide DeCandolle) ~~he also~~ ~~in~~ ~~the~~ ~~manuscript~~ ~~he~~ ~~referred~~  
to Exanthra.



to elucidate these plants; but he wrongly describes the internal structure of the seed, and divides genuine species of Timonius between <sup>his</sup> Bobea and Polyphragmon. In this he is followed by Miquel, who, however, ~~at a~~ a little later (Fl. Ind. Bot. 2. p. 355) ~~becomes~~ ~~and~~ perceives that the two supposed genera are, ~~much the same thing.~~ ~~Korthals~~ ~~refers~~ ~~includes~~ in his Bobea (very much alike.)

in the ovary! The whorls are suspended, not erect, a  
"somina erecta" ~~is~~ a phrase forced into the character by Endlicher,  
Simonsia Horstii has merely oblong  
and pretty thick, crustaceous, and somewhat  
slightly compressed pyrenae, and a coarse,  
somewhat quadrate areolation of the venlets  
of the leaves. Over ~~two~~ <sup>Ligustrum foliosum</sup> ~~the same~~  
~~the same species~~

62

Our Feejean species have thin, almost  
papery, and linear cylindrical pyrene,  
and a fine lineate reticulation of both  
surfaces of the leaf. But Timonius ac-  
uminatus, R. Br., which is probably T.  
Rumpphii, DC. (Polyphragmon sericeum,  
Desf. and Acanthus Timonensis, DC.) is in-  
termediate in both respects: the ultimate  
veinlets run into transverse linear meshes  
within the coarser reticulations, visible on  
the lower but not on the upper surface  
of the leaf.

1. Timonius Forsteri, DC. (Tab. )

Timonius Forsteri, DC. Prodr. 4. p. 461;  
Hort. & Arn. Bot. Beech. p. 65; Guillem.  
Zeph. Jart. p. 52.

Erithalis polygama, Forst Prodr. p. 17. (E.  
obovata, in ind. p. 98. & herb.)

E. uniflora, Banks! Gart. f. Fruct. & Sem.  
(suppl.) 3. p. 92. t. 196.

E. cymosa, ~~Spring, Syst. Veg. 1. p. 17~~ Forst,  
ex Spring, Pugill. 1. p. 17.

Burmea Forsteri, Cham. & Schlecht. in  
Linnaea. 4. p. 189.

(B. Forsteri)  
Bohea Forsteri, Korthals, l. c.; Miq. Fl. Ind.

Nat. 2. p. 260.

Polyphragmon minus, <sup>R. Rich. l. c.</sup> DC. Prodr. 4. p. 465.



Carlshoff, Karaka,  
 Hab. Society Islands, Vincennes,  
 King's, Wilson's, and other small Oce-  
 anic Islands.

Guillemin has reproduced Forster's original description in the Zephyritis Taitensis. The younger Goertner's figure of the ~~fruit~~ fruit is not bad. We give some analyses to supply the useful details.

6

Plate A. — Limnium Forsteri. Fig. 18, A pyrena, 19, Vertical section of the same. 20, A seed. 21, Embryo. Various magnified.

2. Timonius sapotefolius. sp. nov. (Tab. .)

T. foliis (etiam nascentibus) cum stipu-  
lis majusculis ramisque glaberrimis  
elliptico-oblongis utrinque acuminatis;  
~~costis primariis obsoletis~~, venulis cre-  
berrimis lineato-reticulatis tenuiter  
<sup>nervoso-</sup>striatis, areolis lineari-elongatis par-  
allelis; pedunculis fructiferis Petiolum  
aequantibus; pyrenis ~~numerosis~~  
linearibus, putamine tenui.

Hab. Sandalwood Bay, Feejee Islands,  
at an elevation of about 2000 feet.

A shrub or tree (the size not  
recorded), sparingly gathered in fruiting  
specimens only, and, as appears from the



figures with the withered remains of  
a fertile blossom. The specimens  
are completely glabrous, even to the  
nascent leaves. Branchlets terete,  
slender. Stipules large for this family,  
apparently larger than those of T. Rumphii,  
an inch or more in length,  
oblong-lanceolate, in texture between charta-  
ceous and scarious, chestnut-colored, <sup>glabrous</sup> con-  
volute in the bud, of which they form  
the perule, caducous <sup>when</sup> the leaves ex-  
pand. Leaves convolute in vernation,  
oblong-elliptical, with the apex abruptly  
more or less acuminate, and the base  
more gradually tapering, 2 to 3 1/2 inches  
long (and the petiole about half an inch  
in length), an inch or more in breadth,  
smooth, of the same hue both sides, not  
~~shining~~ lucid but of a somewhat satiny  
aspect, owing to the close ~~and fine~~ parallel  
<sup>ultimate</sup> venlets, which are so fine as scarcely to  
be discerned by the naked eye. Of  
ordinary primary veins there are only  
~~very~~ obscure indications, but one or even  
two <sup>finosculating</sup> intramarginal veins are sometimes  
more apparent. The whole ~~fine~~ venation,  
with these exceptions the

consists, in fact, of very closely set, uniform, and exceedingly delicate nervose veinlets, proceeding side by side obliquely from the midrib to the margins, and interlacing at considerable distances, so as to ~~form~~ form narrowly linear and parallel meshes, which in the dried specimens are barely visible to the unassisted eye, but are conspicuous under a lens, especially on the upper surface of the leaf. No flowers are known except the vestiges of a withered one, which was delineated upon the plate under Mr. Nich's superintendence (Fig. 9), from which, and from his artist's sketches, the figures 10, 11, and 12 have been prepared. It appears that the limb of the calyx is extremely short and completely truncate; the corolla 5-cleft, and evidently of valvular aestivation, and the anthers linear and sagittate. The ~~remains~~ of the corolla, as appears from the remains, is glabrous externally, which is remarkable in this genus. The fructiferous ~~are~~ peduncles are simple and one-flowered, about half an inch



[illegible]

long, equalling the petioles. Fruit globose, as large as a pea, crowned with the very short, truncate, and entire ~~border~~ <sup>border</sup> of the calyx. Pyrene very numerous and pluriserial, in the manner of the genus, ~~as it were~~ <sup>slig</sup> retrose imbricated, linear-cylindrical, ~~much thinner~~ <sup>longer</sup> and for the most part a little incurved; the putamen much thinner than that of T. Forsteri, between chartaceous and crustaceous in texture, the apex only fibro-chartaceous and pericarp closed with ~~the~~ a short corky plug, which represents the funiculus of the seed, and is of fully its diameter, its lower extremity a little hollowed and applied to the hilum. ~~The nucleus~~ ~~the seed~~ Seed cylindrical, invested by an exceedingly thin and <sup>minutely</sup> reticulated testa. Albumen none, except a mere film. Embryo cylindrical: radicle superior: cotyledons very short, ~~and~~

Plate B. Timonius papillifolius.

Fig. 8. Variation of a leaf. 9. Ovary and shrunken remains of a flower corolla. 10. Corolla and stamens displayed. 11. A stamen. 12. Style. 13. Drupe. 14. Transverse section of the same. 15. Longitudinal section of a drupe. 16. A pyrene. 17. Longitudinal section of the same. The details magnified.



3. Timonius <sup>nitidus</sup> ~~affinis~~ sp. nov. (Tab.)

T. foliis ovalibus basi subcontractis  
~~at~~ obscure penninerviis, venis sub-  
reticulatis, retibus venularum varie  
versis hinc inde contrariis; - catenum  
precedentis.

Timonius affinis, Gray in Proceed. Amer. Acad. 4, p. 36.  
Pteris nitida, Bartl. in DC. Prodr. 4, p. 395.

Tab. Sandalwood Bay, Feejee Islands.  
 (In fruit only.)

This so much resembles the pre-  
 ceding species that it might perhaps to  
 be regarded for the present as a mere variety  
 [or rather ~~it~~ at ~~may~~ be reduced to this as the earlier published].  
 of it. The stipules, fruit, &c. are  
 quite the same. The greater breadth of  
 the leaves is of no account. But these  
 want the satiny appearance, and show,  
 at least on the upper surface, although  
 obscurely, veins of the ordinary sort, which  
 insculcate coarsely towards the margins.  
 The rest of the venation consists of the same  
 delicate veinlets as those of T. Sapotaefolius,  
 forming similar linear meshes. ~~in~~ These  
 towards the centre of the leaf are parallel  
 to the main veins, i.e. obliquely transverse

to the midrib; but towards the margins, where the ~~coarser~~ main veins inter-  
 osculate into coarse reticulations these  
 are traversed by the fine meshes in the  
 opposite direction, ~~the~~ or in various direc-  
 tions in adjacent portions of the leaf,  
 in the manner represented in Fig.  
 The fruit is more mature and more  
 abundant in these specimens ~~of this~~  
 than in the preceding. The whole struc-  
 ture is illustrated in the figures and  
 their explanation below.

Since the above was written, and my obser-  
 vations upon Timonius, H. published in the  
 Proceedings of the American Academy of Arts  
 and Sciences, ~~were published~~ I was led by the pecu-  
 liarity of venation to suspect that Bartling's  
Petesia nitida and P. tenuifolia, from the Phil-  
 ippine and <sup>with "areolis radiato-striatis,"</sup> Mariana Islands, ~~belonged~~ were  
 species of Timonius, in which the pyrene  
 had (not unnaturally) been taken for seed.

A comparison kindly made, at my request,  
 by Professor Grisebach in connection with  
 Professor Bartling confirms this conjecture,  
 and makes it almost certain that my Timonius  
affinis is Bartling's Petesia nitida.  
 It is better, therefore, to revert to this specific  
 name, especially since T. sapotifolius may  
 also ~~have to~~ come to be included in it.

Plate CD. Timonius nitidus.  
 Fig. 1. Venation of a leaf. 2. A drupe. 3.  
 Transverse section of the same. 4. A longitudinal  
 section of a drupe. 5. A pyrene divided lengthwise,  
 to show the contained seed and its funicle. 6. The same,  
 with the testa removed, to show the embryo. 7. Embryo  
 detached. The details variously magnified.



71

Bohea, Gandich.

Char. emend. Flores <sup>(an semper?)</sup> hermaphroditi.  
calycis limbus cupuliformis, truncatus, vel obsolete 4-dentatus, <sup>persistens</sup> corolla <sup>glabra, intus nuda;</sup> lobis 4 valibus obtusissimis aestivatione valde imbricatis. Stamina 4 supra medium tubi inserta: filamenta brevissima; antherae lineares, paullo supra basin sagittatam affixae. Stylus <sup>superne</sup> inaequaliter 3-10-fidus, lobis filiformibus apice introrsum stigmatosis. Ovarium 3-10-loculare. Ovula in loculis solitaria, ab apice funiculo brevissimo ~~carum~~ strophioleiformi suspensa. Fructus drupaceus, 3-10-pyrenus; pyrenis parallelis, ossis, crassis; sar-

carpio tenui. Semen <sup>cylindricum,</sup> cum funiculo seu strophiole crassissima <sup>dura (instar</sup> obturamenti) ~~instar~~ <sup>um</sup> ~~laxi~~ eodem latius, loculo <sup>um</sup> ~~angustum~~ subcurvato <sup>um</sup> pyrenarum implens: albumen vix ullum. Embryo seminis conformis; radícula

longa cylindrica, cotyle duobus sub-  
 complanatis brevibus. — Arbores  
 Sandwicensis; stipulis interpetiol-  
 aribus discretis ~~caducis~~ squa-  
 maceis ~~caducis~~ ~~in~~ pedunculis axil-  
 laribus ~~vel~~ terminalibus? uni-pauci-  
 floris. { venulis foliorum exherissime  
 ac tenuissime reticulatis; }

Nobea, Gaudich. in Bot. Voy. Freyc.  
 p. 473, t. 93, non Korthals

Nobea, A. Rich. Mem. Rub. l. c. p. 135.

Burneya M. p. no. 2. Cham. Schlecht. in  
 Linnaea, 4. p. 190

Limonium, ex parte et char., DC. Prodr. 4.  
 p. 461, non Kunth.



Gaudichaud's name of Bobea is to be preferred to Burneya of Chamisso not only because the plate in the Botany of Freycinet's Voyage was earliest published, but because Burneya was founded primarily upon a genuine species of Limnium, viz. upon Forster's Erithalis. As a genus, the aestivation of the corolla (now first made out), the completely hermaphrodite blossoms (as far as known), and the comparatively few, thick, and uniseriate pyrenae amply distinguish ~~it from~~ Bobea from Limnium. The two genera would even fall into different subtribes according to the distribution of the Coffeae suggested by ~~Mr.~~ Bentham, viz. Limnium with Euppyrena, into his Vanguerieae, and Bobea into his Guetthardeae. But the close coincidence of these genera in most other respects greatly overbalances the character derived from the aestivation

of the corolla, while the nearly exalbuminous embryo, ~~and~~ the plug-shaped funiculus filling the <sup>upper end</sup> ~~summit~~ of the cell, and the delicate reticulation of the veinlets of the leaves (which is discernible in Chomelia and Guettarda) undoubtedly refer them to the Guettardeae.\*

\* Subtr. Guettardeae. Char. emend. — Corollae lobis aestivatione imbricatis, raro valvatis. Ovarium <sup>tri</sup> 3-loculare: ovula in loculis solitaria suspensa. Drupa <sup>tri</sup> 3-locularis vel <sup>di</sup> 2-locularis vel <sup>di</sup> 2-locularis. Semina e funiculo ~~trivi~~ crasso obturamentiformi suspensa: albumen nullum vel parvum. Radicula longa, cotyledones parvi.



1. Bobea elatior, Gaudich. l. c.

13. glaberrima; foliis obovatis oblongis, basi in petiolum sat longum attenuatis; pedunculis gracilibus 3-7-floris, flore intermedio sessili, involucris basi subcupulato

Burneya Gaudichaudii, Cham. Schlecht.  
in Linnaea, 4, p. 140.

Timonius Gaudichaudii, St. Prodr. 4, p.  
461.

Hab. Oahu, Sandwich Islands; on  
the mountains behind Honolulu; where

it <sup>was</sup> ~~has been~~ collected by Menzies? and  
Macrae, as well as by Chamisso and  
by Gaudichaud; also recently by Kemy.

A small tree, with terete branchlets,  
or the younger ones more or less compressed,  
glabrous. Stipules<sup>2</sup> interpetiolar, nearly  
half an inch in length, pergamentaceous,  
triangular-lanceolate, pointed, somewhat  
convolute in the bud, early deciduous.  
Leaves 2 to 4 inches long, on petioles of an  
inch or less in length, obovate-oblong or  
oblong, with an acute or cuneate base,  
rather membranaceous, moderately feather-  
veined, the veinlets on the upper surface very  
finely and peculiarly reticulated in the man-  
ner of Timonius! The few blossoms  
seen and examined are all hermaphro-  
dite. Peduncles axillary, 2 or 3 inches  
long, articulated ~~at~~ with the stem and  
with the pedicels, 3-7-flowered; the inter-  
mediate flower sessile, the lateral ones  
on diverging pedicels half an inch long.  
A very short and nearly entire cupulate or  
saucer-shaped calyculus subtends the base  
of each flower. Calyx rather cyathiform;  
the free portion erect and ~~about~~ <sup>nearly</sup> as long.

as the adnate tube, truncate, <sup>or</sup> very  
 obscurely 2-4-toothed. Corolla four-  
 plish, glabrous without and within,  
 about half an inch in length, salver-  
 form, <sup>deciduous;</sup> the tube thrice the length of  
 the limb; the broadly oval and very  
 obtuse lobes strongly imbricated in  
 aestivation, two external and two inter-  
 nal; <sup>the lobes sparingly bearded outside in the young bud,</sup> stamens nearly included, in-  
 serted above the middle of the tube of the  
 corolla; filaments ~~much~~ very short, nar-  
 row, smooth; anthers linear, in-  
 serted a little above the sagittate-cleft  
 base, the apex and the basal lobes apic-  
 uate. Style grooved below, cleft  
 above into 3 or 4 filiform lobes of un-  
 equal length, or into two divisions which  
 are again cleft, making as many lobes  
 as there are cells in the ovary;  
 stigmas oblong, small, introrsely ter-  
 minal. Ovary 4-10-celled, or in  
 one specimen examined only 3-celled; cells  
 small, parallel. Ovary solitary, ana-  
 trypous, <sup>linear-oblong,</sup> suspended from the summit of the  
 cell upon a sort of cupulate strophiole  
 which is as broad as the ovule itself.



Drupe globular, from a quarter to a  
 third of an inch in diameter, crowned  
 with the cupulate limb of the calyx;  
 the flesh thin, the mass of the fruit  
 occupied by the (3 or) 4 to 10 separate  
 but compacted, parallel, oblong, very  
 thick-walled, and bony pyrenae: these  
<sup>obtusely 4-5-angled by mutuality of pyrenae,</sup>  
 are <sup>nearly</sup> straight, in a single verticil, or  
 when numerous a few ~~are~~ become exter-  
<sup>iorly</sup> ~~iorly~~ <sup>ly</sup> ~~of them are~~ <sup>comprised into one of two cells,</sup>  
 mal; their cavity is small compared  
 with the thickness of the bony wall,  
 a little curved, the concavity towards the  
 axis, <sup>and</sup> larger at the upper end, which is  
 filled by what assumed in the ovary to  
 the strophiole or funiculus, which now  
 forms a firm, <sup>almost</sup> crustaceous plug, a  
<sup>little</sup> broader than the seed itself. Testa  
 very thin and delicate, reticulated. Albumen  
 only a ~~delicate~~ thin film or lining to  
 the coat of the seed. Embryo ~~conform~~  
 cylindrical: radicle elongated, superior:  
 cotyledons <sup>short,</sup> oval, ~~flattened~~ a little flattened, <sup>scarcely</sup>  
 by at all broader than the radicle.

2. Bohea brevipes, M. & A.

B. foliis oblongis vel subovatis basi obtusis breviter petiolatis, junioribus praesertim ramisque hirsutopubescentibus; pedunculis brevibus unifloris?

Hab. Oahu, on the mountains behind Honolulu.

Only a single and incomplete specimen, with a solitary fruit, occurs in the collection; but, if I mistake not, it was also gathered by Gaudichaud in the cruise of the Bonite. There can hardly be any mistake about the genus. The only question is whether it may not be a mere variety of B. elatior. But, besides the hirsute pubescence which clothes the younger branches and foliage, and persists on the midrib and the veins of the lower surface, ~~if the~~ the petioles ~~decide~~ much shorter, only 2 or at most 3 lines long, the leaves are rather ovate-oblong than obovate, and obtuse



or abrupt at the base. They are 2 or 3 inches in length, and one inch or an inch and a half in width, soon glabrous above. Like the original species they fall off readily in the dried state, and they exhibit the same fine reticulation of the veinlets. Stipules 3 lines long, ovate, chestnut-colored, hairy on the thickened midrib, somewhat ciliate, early deciduous. Flowers unknown. The single drupe was borne in ~~the~~ <sup>a</sup> fork of the stem, on a simple peduncle only 3 lines in length, ~~which was articulated both with and~~ articulated with it; it is globose, 3 lines in diameter,  ~~tipped~~ <sup>and capitate</sup> apiculate with a very small, truncate limb of the calyx. Sarcocarp very thin. Pyrene 4, thick and bony, as in *B. elatior*; the structure of the seed not made out.

~~Bohea~~

~~To this genus I am constrained to~~  
~~append~~

80

Chomelia, Jacq.

1. Chomelia? Sandwicensis, <sup>Mv.</sup> sp.)

C.? ramis junioribus pubescentibus;  
foliis glaberrimis oblongo-ova-  
tis acuminatis basi rotundatis;  
fructu dipyrreno globoso caly-  
cis lobis ~~ma~~ majusculis ovalibus  
obtusissimis recurvis coronato.

Hab. Kaala Mountains, Oahu,  
Sandwich Islands.

Shrub or tree with the branch-  
lets scarred all over with the contig-  
uous cicatrices of fallen leaves and  
stipules, when young pubescent or  
hirsute, at length glabrous. Stipules  
interpeticular, small, ovate, thickish,  
hairy ~~not~~ outside, caducous. Leaves



much crowded at the end of the branchlets, perfectly glabrous, even ~~when~~ in their nascent state, ovate or oblong-ovate, gradually tapering above into an acute acumination,  $1\frac{1}{2}$  to 2 inches long, ~~for~~ 9 to 12 lines wide, broadest towards the rounded base, somewhat coriaceous, bright green on both sides; the veins not prominent; the veinlets, especially on the upper face, forming minute and elegant transverse reticulations in the manner of Bobea and other Guettardeae. Petioles 2 to 4 lines long. Peduncles axillary, a little longer than the petioles, few-flowered. Limb of the <sup>campanulate</sup> calyx (about the length of the turbinate ovary, deeply 4-cleft; the lobes oval or obovate, very obtuse, increasing with the fruit and becoming foliaceous and recurved and about one third <sup>or a quarter</sup> of its length, glabrous. A young flower bud exhibited a 4-lobed corolla still enclosed in the open calyx;

the lobes with a hairy <sup>corniculate</sup> ~~crenulate~~ ~~appendage~~  
dorsal appendage, within which they  
are crenulate, glabrous, and intricately  
overlapping, two being exterior.  
Anthers ~~linear~~ oblong-linear on  
short filaments. Style glabrous, 2-  
cleft at the <sup>level</sup> summit. Drupe globose,  
2 1/2 lines in diameter, a little hairy  
when young, with a very thin sar-  
cocarp surrounding two thick and  
bony separable pyrenae, like those  
of *Bohea*. Seed <sup>cylindrical</sup> suspended from  
the summit of each ~~cell~~, narrow and  
nearly straight cell by a plug-  
like corky-crustaceous funiculus.  
Radicle cylindrical, occupying nearly  
the whole bulk of the seed, surround-  
ed by a thin layer of albumen.  
The lower extremity bearing a pair  
of very minute <sup>and</sup> thin cotyledons.

The developed flowers of this  
plant are unknown. The above  
characters have been drawn from one  
or two ~~young~~ very young flower-buds  
and fruits. When better known it  
may prove to be a new generic type



2. *Neelke Joutens* *Dr. Am.*  
13. *Julius Wato-olungio*

of the Guettardea. But it is more likely to fall into Chornelia or into Benthian's genus Guattardella which is hardly well ~~enough~~ distinguished by the <sup>greater</sup> number of ovarian cells. Chornelia vihesioides, Benth., occasionally exhibits a 4-celled prutamen; and the ~~four~~ pyrene of Guattardella chinensis are very often consolidated into a 4-celled prutamen in the specimens collected by Mr. Charles Wright.



Guettarida, Linn.

1. Guettarida (badamba) speciosa, Linn.

<sup>Scrubby and</sup> <sup>cultivated,</sup>  
 Hab. Tongatabu. } Feejee Islands,  
King's Island, Mangsi Islands.

Miquel (Fl. Ind. Bat. 2. p. 261), while characterising his tribe Guettarideae, upon indications supplied by Benthams, by its solitary pendulous ovules, still retains the phrase "semina erecta" in the generic character, <sup>with a mark of doubt,</sup> The ovules are truly suspended from the summit of the cell, both in this and other species of Guettarida, <sup>by a</sup> ~~and the~~ cupulate funiculus, <sup>which</sup> becomes in fruit a crustaceous plug; ~~this~~ <sup>this body</sup> ~~structure~~ was rightly understood by Richard. The tapering of the ovules and forming seed to an acute apex at the base of the cell may have misled those authors who describe the seed as erect. As to the embryo, that of G. speciosa was better understood by Gartner than by Richard. It consists, in fact, of a macropodous radicle,

which, with the obscurely-marked cotyledons at the tapering lower end, and fills the seed; ~~surrounded merely enclosed~~ what intervenes between it and the delicate testa is ~~rather~~ apparently tegmen rather than a film of albumen. There is only a thicker film of this sort in the species <sup>from Key West</sup> named G. elliptica in the Flora of North America, the only other species which I possess fruit of. Here the embryo is similar; and the cotyledons, although difficult to separate in the mature seed, are plainly discernible ~~a little earlier~~ in scarcely ripe ones: they are very short, oval, plano-convex, and of no greater diameter than the ~~tapering~~ radicle at that end.

2. Guetl arda rugosa, Swartz.

Stat. Brazil, in the Organ Mountains near Rio Janeiro.



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B. Guettarda? Vitiensis, Sp. Nov.

G.? foliis ovato-oblongis acuminatis  
membranaceis supra fere glabris  
subtus ramulisque appresse puber-  
ulis; pedunculis petiolum subequan-  
tibus 3-7-floris; drupa ovali calyce  
~~dentibus~~ obtusissime 4-<sup>5</sup>-dentato  
coronata 3-<sup>(-10)</sup>7-loculari, loculis rec-  
tis.

Hab. Ovalau and Muthuata,  
Feejee Islands.

The specimens belong apparently  
to a good-sized shrub or small  
tree, with deciduous silky and subulate  
deciduous stipules, and thin, oblong  
or ~~ovate~~ ovate-oblong and acuminate  
leaves, of 2 or 3 inches in length, rather  
prominently feather-veined, nearly glabrous  
above, but ~~when~~ minutely pubescent with  
fine appressed hairs underneath, as are  
the branches, the older ones glabrate.  
Petioles slender, half an inch long. No  
blossoms remain; but one or more must have

been known to Mr. Rich, who, in a ~~note~~ memorandum attached to the specimens, remarks that the "corolla is tubular, binate externally, and on the reflexed lobes of the limb, also hairy inside, particularly near the base; filaments short, inserted near the middle of the tube; ovary 3-10-celled; style thickened, furrowed; stigmas 10? linear." ~~The~~ A short and thick style, or its base, remains upon some of the young fruits, and is blunt at the extremity. If the stigmas are really linear, the plant ~~should~~ is can hardly be a Guetta arda. But the ovules and fruit ~~are~~ accord with that genus, to which our plant may as well be referred until the destination of the corolla is known. Should it prove to be valvate, as ~~the hairiness~~ ~~the~~ the plant can hardly belong to Korthals' genus Lachnastoma, for the <sup>linear</sup> ovules <sup>and linear seeds</sup> are suspended from the very apex of the (usually 4 to 7) cells, ~~and the~~ they have a well-marked cupulate funiculus or strophiole, in the manner of Guetta arda. The short limb of the calyx is truncate and very obtusely 4-5 toothed. Drupe not larger than a pea, oval, more or less

angled in the dried state, with a thin sarcocarp and a somewhat angled, bony putamen, having from 3 to 7 narrow and straight cells.

This plant should be compared with the Guetta ardella from the Philippine Islands spoken of by Mr. Benthham in Flora Hongkongensis, p. 158. For its resemblance to G. chinensis is great to G. chinensis;—in which, moreover, the pyrene, though sometimes separate, as described, are (in C. Wright's copious specimens) for more commonly converted into a 4-5-locular putamen, so that the <sup>Guetta ardella</sup> genus, I suppose, will not stand. See V. Seemann's no. 257, from the Feejee Islands, with only very young flower-buds, is perhaps the G. Vitiensis or very near it.



Scyphiophora, Gertn.

1. Scyphiophora hydrophyllacea, <sup>Gertn.</sup> 1

Scyphiophora hydrophyllacea, Gertn.

f. Carp. 3, p. 91, t. 196; Blume  
Bijdr. p. 95; Ob. Prodr. 4  
<sup>Arch. Bot. 1, p. 29, t. 4;</sup>  
p. 557; Korth. in Neder.  
Kruid. Arch. 2, p. 203; Hassk.  
Retz. 1, p. 16; Miq. Fl. Ind.  
Bat. 2, p. 239.

Epithymia Malayana, Jack in  
Malay. Misc. 1, p. 12, t. Work.  
Bot. Misc. 2, p. 67; Ob. l.c. p.  
477; Night & Arn. Fl. Ind.  
p. 423.

Hab. Small islands in the  
Sooloo Sea: a maritime shrub.

Korthals has rightly identi-  
fied Jack's Epithymia with the  
little known Scyphiophora of the  
younger Gertner and of Michx.  
But I still find something to cor-  
rect in the attempts made to com-  
plete Jack's description. This ap-  
pears to be perfectly correct, as far as  
it goes, except as to the absence of  
stipules. I do not find the up-  
per ovule "pendulous from the apex  
of the cell", as stated by Night and  
Arnott; nor are the ovules solitary  
in each cell, as <sup>in</sup> Hasskarl's recent  
description; nor is the upper ovule  
prematurely abortive, as Miguel  
would have it. The two cells of  
the ovary are ~~long~~, pretty long and  
narrow, and each contains two  
<sup>Anatrochus</sup> ovules, on funiculi of nearly their  
own length, which are inserted  
~~on~~ the ~~dissepiment~~ <sup>in</sup> at the middle  
of the cell. The upper ovule is  
erect; the lower pendulous.  
The funiculi are thickened at  
their extremity, so as to cap the end  
of the ovule as in Guttardaceae  
generally, but not perhaps so con-  
spicuously. In the fruit, when both  
ovules have been fertilized, the  
cell becomes constricted in the mid-  
dle between the two seeds, ~~for this~~  
producing two imperfect locelli, one  
above the other; these locelli, and the  
seed which is conformed to the cavi-  
ty, are somewhat curved. In the  
~~scarcely~~ hardly mature seeds examined.  
The embryo has oblong <sup>and</sup> flattish coty-  
ledons, which are larger than the  
radicle; and the albumen is nearly  
wanting. The corky-crustaceous pericarp,  
surrounded by a thin epicarp, does not incline  
to split readily into two pyrenes. The corolla  
is convolute or contorted in aestivation. It  
would seem that the genus may be appended  
to the Guttardaceae. (and sometimes pantaneros.)



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Chiococca, P. Browne.

1. Chiococca densifolia, Mart.

Chiococca densifolia, Mart. Spec. Veg.  
Mat. Med. Bras. p. 17, t. 6; St. Paul.  
4, p. 482.

Hab. Brazil, near Rio Janeiro, and  
in the Andean Mountains. Rio Negro,  
North Patagonia.



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*Ixora*, Linna.

To unite *Ixora* and *Parvetta*, as <sup>(Richard)</sup> Blume and Miquel have done, seems not unnatural. But in that case the former, instead of the latter name ~~should have~~ should be retained, not only because the name *Ixora* had been preferred by ~~Samark~~ Samark, but because it is, as a Linnean genus, ten years older than *Parvetta*, appearing as it does in the first edition of the *Genera Plantarum*.

Miquel wrongly characterises the group (his tribe *Parvetteae*, the subtribe *Ixoreae* of Benthams) as having the lobes of the corolla imbricated in aestivation; whereas they are most obviously and as far as noted constantly convolute, as Benthams has stated in the *Rijzer Flora*, ~~where~~ explaining that he uses the term 'imbricated' in a general sense <sup>for</sup> ~~to cover~~ any overlapping forms that may occur, in contra distinction to ~~those~~ the valvate aestivation.

\* Oceanica et Asiatica.

1. Ixora stricta, Roxb.

Hab. Philippine Islands, at Caldera, S., and Mangsi Islands. The ~~latter~~ specimen from the latter station (in fruit only) may belong to Lindley's Ixora crocata, which, however, is probably only a form of I. stricta. [ ~~From~~ From Sandal Wood Bay, Freije Islands, is a fragment, destitute of flowers, which may belong to this species. ~~Still another species with large petioled leaves was gathered at the Freije Island by Dr. Harvey, but out of flower.~~

2. Ixora pendula, Jack.

Hab. Mountains near Bairos, Luzon, small island in the Soolow Sea.

3. Ixora concinna, <sup>(N. Br. in)</sup> Wall. Cat.

Hab. Singapore. (Flowers undeveloped.)



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4. Ixora parviflora, Vahl.

Hab. In the vicinity of Manila,  
Luzon.

5. Ixora (Phyllilema) Samöensis, Sp. Nov.

I. glaberrima; foliis ovalibus utrinque  
obtusis vel obtusiusculis, floralibus  
etiam petiolatis ovatis, capitulum  
triflorum fulcrantibus; dentibus caly-  
cis <sup>with a ~~very~~ glabra</sup> subulatis; stipulis longissime aristato-  
subulatis.

Hab. Upolu, <sup>(one of the)</sup> ~~and other of the~~  
Samöan Islands.

Apparently a much-branched shrub  
or tree, glabrous throughout, even to the  
branchlets and nascent leaves. Stipules  
early deciduous, <sup>from a</sup> triangular ~~subulate~~ base  
tapering into a subulate awn of ~~4~~  
about 4 lines in length. Leaves of a  
rather chartaceous texture, smooth and  
of <sup>nearly</sup> ~~about~~ the same size both sides,  
reticulate-veiny, 2 to 4 inches long, <sup>and</sup> ~~from~~

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one to  $2\frac{1}{2}$  wide, oval, mostly obtuse or with an obscure and blunt acumination at the apex, the base abruptly contracted into a petiole of 2 to 4 lines in length. The floral or bracteal leaves are more like the ordinary leaves in this species than in the <sup>two</sup> following, being only the uppermost pair of smaller size, an inch or an inch and a half in length, inclined to wate in outline, and ~~more~~ rather acute at both ends, the base ~~scarcely~~ contracted into a short but distinct petiole. This pair of leaves immediately subtends a sessile cluster of three nearly sessile flowers. It is occasionally proliiferous, ~~an internode developed from either axil~~ (from one or both axils. <sup>the color not recorded.</sup>) Flower glabrous, Teeth of the calyx 4 or 5, ~~elongated~~ subulate, about the length of the undivided free part of the limb. Corolla salver-shaped; the slender tube nearly an inch long, <sup>only 4 in the specimens examined</sup> peaked and glabrous within; the lobes <sup>convolute in aestivation</sup>, ovate-lanceolate, tapering to an acute point. Stamens inserted in the throat of the corolla: filaments very short; anthers lanceolate, fixed by the base, adnate-



~~acute or~~  
introrse, ~~somewhat~~ apiculate-acute.  
Ovary 2-celled, with a pellate ovule  
in each cell. Style filiform, glabrous;  
<sup>above, hairy below;</sup> stigmas linear-oblong, thick, connivent,  
or somewhat concreted below, exerted  
from the tube of the corolla, ~~short~~ not  
equalling its lobes. Drupe, the size  
of a small pea, dipyrrenous; the  
pyrenae thin, crustaceous, ~~flat~~  
hemispherical, flat on the inner  
face, <sup>smooth and even in the back</sup> seed pellate, deeply excavated  
at the hilum.

This and the two following species,  
with *I. fragrans* (*Cephaelis? fragrans*,  
Hook. & Arn. Bot. Beech. p. 14, t. 13) appear  
to constitute a well-marked section of  
*Ixora*, ~~but are not generically distinguished~~  
on account of their bracteate leaves  
forming <sup>a diphyllous</sup> ~~an~~ involucre to a cluster  
of three or more sessile flowers. The  
present species, ~~smaller~~ having these leaves  
very similar to the rest of the foliage, ~~is~~  
differs least from *Ixora* proper, and  
could not be generically separated from  
it. Our specimens are not in good  
condition. But there is sufficient to show that

they belong neither to Storker and Arnott's Cephaelis fragrans, nor to Forster's Psychotria speciosa. The petiolate involucral leaves, ~~and~~ the long-armed stipules, and the glabrous style distinguish it from the former, as that is figured in the Botany of Buchey's Voyage; and the same marks, as well as the smoothness of the corolla inside distinguish it from Forster's still imperfectly known plant.

Storker and Arnott were in doubt whether their plant were not the same as Forster's Guillemin, who had Forster's plant to compare with the figure of the former, remarks, that, besides the difference in the leaves, which is unimportant, the flowers of Forster's plant are pentamerous, while those of C. fragrans are tetramerous. In this he overlooks the fact, that, although the flowers are described in the letterpress as tetramerous, ~~they~~ they are all represented as pentamerous on the plate. They probably vary in this respect. In our three species the <sup>minute</sup> teeth of the calyx are generally five, while the lobes of the corolla and the stamens are only four. Better distinctions appear in ~~the~~ comparing



The description and figure of *J. fragrans* with ~~the~~ Forster's account of his plant, as printed in the *Zephyritis Taitensis*. The bracts of the latter are said to be an inch long, transversely rugose, and deciduous; ~~those of the former 6 or 8 lines long,~~ the flowers white and two inches long; the lobes of the <sup>of the</sup> corolla villous within and ~~at the~~ throat villous; as also the style; the lobes of the stigma spreading; and moreover the seeds, or rather pyrene, are said to excavate-channelled or bisulcate on the outside, which is hardly congruous with the present genus. *J. fragrans* is said to have ~~red flowers,~~ a red corolla, and it is figured as glabrous <sup>within</sup>, and less than an inch long; the bracts only 6 or 8 lines long, the style only a little glandular &c. Neither of these plants were ~~seen~~ <sup>met</sup> with at the Society Islands by the American expedition.

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Sp. Nov.

b. Ixora (Phylliema) Vitiensis.

I. glaberrima; foliis ovato-oblongis  
acuminatis basi rotundatis,  
floralibus seu bracteis late cordatis  
arcte sessilibus capitulum triflorum  
fulcrantibus; dentibus calycis brevis-  
<sup>corolla glabra</sup>simis; stipulis longissime arista-  
tis.

Nar. B.<sup>3</sup> foliis oblongis ~~utrinque angus-~~  
~~tatis~~ in petiolum attenuatis.

Hal. Ovalau, Feejee Islands.

A shrub? with slender branches,  
glabrous throughout. Leaves thin, 2 to 4  
inches long, oblong or ovate-oblong, mostly  
acuminate, rounded at the base; the short  
but distinct petioles only one or two lines  
long. Stipules as in the preceding  
species, but more slenderly aristate. In-  
volucral leaves decidedly different from the  
ordinary foliage, not more than an inch  
<sup>or one and a half</sup> long, very broadly cordate, closely sessile,  
acute; inflorescence sometimes poliflorous



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from the axils of these involueral leaves.  
Flowers 3, sessile in the involuere,  
glabrous throughout. Calyx-teeth 4 or  
5, extremely short, subulate. Corolla, 4,  
as in <sup>nearby</sup> *S. samoensis*, <sup>but the 4 lobes broader and 'less acute'</sup> the slender tube  
fully an inch long, <sup>very acute. style hairy below.</sup> glabrous within.  
Lobes of the stigma at length spreading.  
~~Style glabrous.~~ Drupe the size of a  
pea, dipyrrenous: pyrene chartaceo-  
crustaceous <sup>melancholy</sup> hemispherical, with a deep  
orbicular excavation <sup>smooth and even on the back,</sup> at the middle of  
the inner face, seed conformed to the  
cell, peltate with a large central  
hilum. Embryo nearly the length  
of the fleshy ~~albumen~~ (not corneous)  
albumen, incurved: the radicle  
<sup>inferior,</sup> ~~nearly~~ twice the length of the broad,  
reniform, menisoidal cotyledons.

A fruiting specimen, also from  
the Feejee Islands, the station not  
recorded, here indicated as a variety,  
is remarkable for its oblong leaves, of  
a rather thicker ~~texture~~ and firmer  
texture, tapering to both ends, the base  
narrowing gradually into a petiole which  
is sometimes 3 or 4 times long. ~~In other~~  
~~respects~~ Additional materials of this are  
a desideratum.

7. Ixora (Phylleilema) amplifolia, sp. nov.

f. <sup>elongato-</sup>foliis oblongis subacuminatis basi  
obtusissimis ~~seu~~ leviter subcordatis  
glabris, floralibus ~~seu~~ bracteis  
ovalibus arcte sessilibus capitulum  
pluriflorum pulcrantibus; dentibus  
calycis brevissimis; corolla cum  
ovario extus pubera; stipulis  
brevis subulato-aristatis.

Hab. (<sup>Upolu and</sup> Savai?) Samuan Islands.

Branchlets compressed, glabrous.  
Leaves when young slightly pubescent,  
soon glabrous, lucid above, rather mem-  
branaceous, 5 to 9 inches long and from 2 to  
3½ wide, on distinct petioles of only 2 or 3  
lines in length, elongated-oblong or obo-  
vate-oblong, ~~and~~ mostly with a short and  
rather obtuse acumination, the base  
commonly retuse or subcordate with a narrow  
sinus. Stipules tapering from a broadish  
base into subulate or short-awned tip,  
caducous. Inflorescence as in the preceding.



but the capituli <sup>often</sup> ~~generally~~ in threes at  
the summit of the branches, very short-pe-  
duncled, ~~and~~ each with from 9 to 15  
flowers on very short and thick pedicels.  
Involucre of a pair of oval or roundish-  
oval thin leaves, which are  
closely sessile, developed with the flower-  
buds, and expanded before these are full-  
grown, one or two inches long, obtuse at  
both ends, not cordate, ~~and~~ early decidu-  
ous. The club-shaped ovaries and their  
pedicels pubescent with ~~soft~~ and short  
hairs, as is the whole exterior surface of  
the corolla, even when old. Each of the  
calyx <sup>truncate,</sup> minute, 4 or 5. Tube of the corolla  
an inch in length; the lobes 4, ovate-  
lanceolate, acute, 3 or 4 <sup>the throat, or glabrous.</sup> lines long. Anthers  
sagittate, apiculate. Style slightly  
hairy below the middle: lobes of the stig-  
ma, thick, oblong, obtuse, connivent.  
Drupe and seed nearly as in the last  
species.

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\* \* Americana

8. Ixora eriantha, Sp. Nov.

*I.* stipulis aristato-subulatis; foliis ovalibus ovatisque ~~subsessi~~ <sup>obtusis</sup> oblique sub-acuminatis subsessilibus basi rotundatis vel subcordatis ramisque glabris; cyma parva terminali floribusque subsessilibus; corolla extus cum calyce pubescente, lobis ovato-lanceolatis acutis tubo uno gracillimo triplo brevioribus.

Hab. Brazil, near Rio Janeiro.

Imperfect as the specimen is, it clearly belongs to a true Ixora, allied to I. Bahiensis, I. Schomburgkiana, &c. of Benth. Branches terete, glabrous. Stipules 3 lines long, subulate-aristate from a broad base. Leaves glabrous,  $3\frac{1}{2}$  to 6 inches long, 2 or 3 inches wide, oval, oblong, oval, or the uppermost ovate obtusely more or less acuminate, rounded or slightly cordate at the base, almost sessile, ~~char-~~ rather membranaceous. Cymuli about 5-



flowered, pubescent, ~~at the sum~~ terminal  
and in the axils of the uppermost  
leaves. Flowers very short-pedicelled,  
calyx 4-5-toothed, densely pubescent.  
Corolla with a slender tube 9 or 10  
lines in length, softly pubescent out-  
side, except perhaps the lower part  
of the tube, which is sometimes gla-  
brate; the lobes convolute in aestivation,  
ovate-lanceolate, acute, Ovary and  
fruit of the genus.

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Pavetta, Linu.

1. Pavetta Indica, Linu.

Hab. Near Manilla, Philippine Islands.  
(Apparently the same species was gathered at the  
Freeze Islands and New Hebrides by Milne.)

2. Pavetta weberaefolia, R. Br.

Pavetta weberaefolia, R. Br. in Wall. Cat.  
no. 6182; Don, Syst. Pl. 3. p. 575.  
P. cerberaefolia (sphalmate), Miq. Fl. Ind. Bat. 2. p. 279.

Hab. Mangsi Islands.

(5 to 9 inches long, elongated-oblong.)

Leaves large, bright green and glabrous  
on both sides, lucid, ~~feathered~~ with 9 to 11  
pairs of primary veins; venulets reticulated.  
Petioles an inch or less in length, byme  
rather large. Limb of the calyx trunc-  
ate, corolla apparently greenish or white,  
villous-tomentose in the throat; the lobes often  
6 or 7 in number, oblong-linear, very obtuse,  
nearly the length of the tube, half the  
length of the exserted clavate-thickened style.

— This is likely to be some species described  
by the Dutch botanists; but I do not identify it  
with any of them.



3. Pavetta paludosa, Blume.

Pavetta paludosa, Blume, Bijdr. p. 954;  
Dc. Prodr. 4. p. 491; Miq. Fl. Ind. Bat. 2. p.  
271, ex char.

Stat. Small island in the Sooloo  
Sea, (in fruit.)

Morinda, Naill., Lin.

Morinda, Tribrachya? & Rennellia,  
Korthals in Arch. Kruidk. Arch.  
2, p. 257; Miq. Fl. Ind. Bat. 2,  
p. 242, 248.

Sphaerophora, Blume, Mus. Bot.  
Lugd. 1, p. 174, t. 36.

In the Niger Flora, Mr. Bentham  
proposed to include the Morindeae of  
DeCandolle in his subtribe Nanguerieae,  
characterized by a valvate aestivation of  
the corolla and pendulous ovules. Mi-  
quel has followed this indication in  
his Flora of Atch the Dutch East Indies,  
(although retaining Morindeae as a tribe)  
and introduced the phrase "ovulis pendu-  
lis" into the character of Morinda; ~~atth~~  
but this has not prevented him from  
~~include~~ referring to it Blume's genus  
Sphaerophora, rightly enough, although  
that is figured with anatroous ovules  
ascending from the base of the cell. How  
Mr. Bentham was led into the error, and



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and why Miguel did not detect and correct it, is not clear. Certain it is that the micropyle of the ovule and the radicle are inferior in all the species I have been able to examine, both of Eumorinda and Padavara. In some, as in M. citrifolia, ~~for~~ the type of the first section, and M. mollis of the second, the ovule is fixed near the middle, in others, nearer the micropyle, in a few so close to it that the ovule is truly anatropous and ascending; invalidating, as might be expected the main characters of Korthals' genera Tribrachya and Kennellia, all the more so that the original species of Morinda have "ovula appressa".

Morindea ~~should~~ accordingly, should either form a subtribe of the Coffeae, or be referred to the Ixoreae.

1. Morinda citrifolia. Lin.

Hab. Society Islands. Samoan Islands, and in most of the small Pacific Islands visited, such as Disappointment, Wilson's, Gardner's and King's Islands. Dr. Seemann also collected it at the Heise Islands.

3. Morinda umbellata, Linn.

Morinda umbellata, Linn. (excl. Syn.  
Kunth.) ; Wight. & Arn. Prodr. 1. p.  
420; Miq. Fl. Ind. Bat. 2. p. 244.  
M. scandens, Roxb. Fl. Ind. ~~ed. Wall.~~ 1.  
1. p. 548; DC. Prodr. 4. p. 449.

M. Padavara, Juss. (Padavara, Rheede,  
Hort. Malab. 7. t. 27.)

M. tetrandra, Jack, Malay. Misc.  
2. p. 13, & Hook. Bot. Misc. 2. p. 67 (~~ad~~  
licet corolla tubo nec laciniis in-  
tus barbato). M. microcephala, Wendl. in DC. Prodr. 4. p. 449?

Stat. Singapore, Luzon, in the  
mountains near Manila, Ovolau,  
B. Feeje Islands, Tahiti and  
Eimeo, Society Islands.

~~This~~ view of the great variability of  
M. umbellata our Oceanic speci-  
mens may fairly be referred to this  
species. The most doubtful <sup>are</sup> those  
~~plants~~ of the Society Islands (M. um-

bellata of Forster, which Dr. Pickering records as a shrub, with no mention of its being sarmentose; (neither does Jack <sup>so describe</sup> his M. tetrandra). The corolla is sometimes pentamerous, and the villous beard of the inside of its limb, which abounds in most flowers, appears to be wanting in some few of them.

The specimens from the Fieyre Islands are the same as those of Seemann no. 222.



3. *Morinda myrtifolia*, sp. nov.

*M.* (S. Padavara) *glaberrima*; ramis  
gracilibus scandentibus; stipulis  
in vaginam truncatam brevem con-  
natis; foliis sublonge petiolatis sub-  
coriaceis nitidulis lanceolato-  
sen elliptico-oblongis ~~atrinque~~ <sup>unius</sup> obtuse  
acuminatis, venis primari-  
is haud conspicuis, axillis nudis;  
permentis terminalibus brevibus  
solitariis 2-4-nisve; capitulis  
plurifloris globosis; tubo corollae  
4-fido intus villosa-barbato.

Hab. Muthuata and Oralan, Feeje  
Islands.

A slender and very smooth, scan-  
dent species, with <sup>very</sup> short stipules com-  
pletely united into a truncate sheath,  
and small nearly coriaceous leaves.  
These are from one and a half to two  
inches long, on petioles of 4 to 6 lines in  
length, very smooth both sides and with  
immersed veins, destitute of glands or  
beard in their axils; <sup>in shape they are</sup> narrowly elliptical

and rather obtuse at both ends, or on  
vigorous shoots inclining to ovate-lan-  
ceolate and obtusely pointed. Peduncles  
3 to 5 lines long, often solitary or in  
pairs, occasionally four in a terminal  
umbel. Flowers ~~small~~ small, nearly  
as in *M. umbellata*, 12 or more in the  
capitulum. The syncarpous fruit glob-  
ular, about 4 lines in diameter. <sup>††</sup>  
~~When fuller materials are obtained this  
may possibly take in the Tahiti Forster's  
*M. umbellata* of Tahiti.~~

Pyrone 4, subreniform, seed conformed  
to the cell, fixed rather below the middle.  
Radicl inferior.

No. 223 of Seemann's Feejee col-  
lection and specimens collected by Dr.  
Harvey at Navaro or Lifuka  
are larger-leaved forms of *M. myr-  
tifolia*, approaching the Tahitian  
*M. umbellata*, of which species it may  
prove to be a variety.

4. Morinda lucida. Sp. Nov.

M. (Padavara?) glabra, scandens; stip-  
 ulis in vaginam brevem connatis,  
~~utrinque + 2 mucronat un~~ sum-  
 mis utrinque uni-bicuspidatis; foliis  
 ovatis et oblongo-lanceolatis acuminatis  
 chartaceis supra lucidis, venulis  
 reticulatis subtus opacis venis pri-  
 maris tantum perspicuis in-  
 axillis saepius barbellatis; pedun-  
 culis ~~terminalibus~~ (fructiferis) solita-  
 riis, ternisve ~~terminalibus~~ <sup>capitulis plurifloris; syncarpio</sup>  
 los <sup>ad</sup> frequentibus; ~~fructu~~ <sup>fructu</sup> globose  
 pollicari.

Hab. Ovolan, Feejee Islands;  
 in woods, about 1200 feet above  
 the level of the sea.

This is said to be a vine, with  
 the smooth leaves bright green and  
 shining above. They are 4 or 5 inches  
 long, and  $1\frac{1}{2}$  to 2 inches wide, on  
 petioles 6 or 8 lines in length. They are  
 of a chartaceous or somewhat coriaceous



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texture, very smooth, but with minute traces of pubescence underneath, obtuse or rounded at the base, and tapering gradually from below the middle to a more or less acuminate apex. The primary veins 3 to 5 on each side of the midrib are very slender and slightly salient beneath, the veinlets not at all so. The "glands" in their axils are nearly as in *M. umbellata*, but their margin much less bearded. <sup>Stipules at length deciduous.</sup> Flowers unknown. The syncarp or general fruit is globose, torose-angled, fully an inch in diameter, and composed of the connate <sup>drupes</sup> ~~ovaries~~ of 15 to 20 flowers, each tetrasperous. Seeds ascending from near the base of the cell, ~~fix~~ inserted by a very narrow hilum. Radicle inferior.

5, Morinda mollis, Sp. Nov.

M. (s. Padavara) scandens, undique  
velutino-pubescent; foliis membra-  
naceis ovato-sen obovato-oblongis  
caudato-acuminatis basi sinu par-  
vo subcordatis perspicue penni-  
nerviis; pedunculis plurimis in um-  
bella terminali; capitulis plurifloris;  
syncarpio globoso pubescente.

Hab. Feejee Islands; "common;  
collected for various economical purposes".

"A vine", with slender obtusely  
quadrangular branchlets which, with  
the foliage, peduncles, and fruit, are  
velvety ~~pubescent~~ with a soft pubes-  
cence throughout. Leaves thin and  
membranaceous, oblong-ovate or  
oblong-obovate with a small cordate  
sinus at the base, or the uppermost  
lanceolate, the apex abruptly contracted  
into a slender acumination; the pri-  
mary veins <sup>rather</sup> ~~pretty~~ prominent underneath,  
and straight, 9 to 13 pairs; the leaves are  
from 3 to 5 inches long and from one

115  
to  $2\frac{1}{2}$  wide: Petioles 4 to 6 lines long,  
Stipules apparently almost distinct,  
early deciduous. Peduncles 5 to 7 in a  
terminal umbel, about half an inch  
long. Flowers not seen, having all  
fallen. Ovaries about 10, <sup>completely</sup> united into  
a globular head, each 4-celled and  
one-ovuled: ovule semianatropous, the  
micropyle inferior. The nearly full-  
grown syncarp is still pubescent, glob-  
ular, and barely half an inch in  
diameter.



6. Morinda bucidifolia, sp. nov.

M. (S Padavara) glabra, scandens; ramis gracilibus; stipulis subdistinctis; foliis obovato-cuneatis obtusis vel retusis coriaceis supra nitidulis subtus <sup>venulis</sup> inter costas rectas prominulas crebre reticulatis; pedunculis plurimis terminalibus; capitulo globoso 7-10-floro.

Hab. Sandalwood Bay, Feejee Islands. (In fruit.)

A climbing species, with rather slender branches, glabrous, or the peduncles &c. somewhat puberulent. ~~Stipules~~ Stipules short, apparently intrafoliaceae and the two united only at the base, but they are mostly imperfect or fallen, and their character not readily to be made out. Leaves coriaceous, smooth, crowded on the flowering branches, about 2 inches long and an inch wide, obovate-cuneate, ~~contra~~ tapering into a petiole

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of only 2 or 3 lines in length, rather  
lucid, especially the upper surface,  
the lower with <sup>the</sup> about 5 pairs of  
primary veins or ribs rather promi-  
nent but slender, <sup>and</sup> the intermediate  
veinlets all nearly equal, closely  
and ~~rather conspicuously~~ beautifully  
reticulated, forming a rather con-  
spicuous network. Peduncles 7 to  
10, in a terminal umbel, 3 or 4  
lines long. Flowers not seen.  
Capitula about 10-flowered, in fruit  
but immature about 4 lines in diam-  
eter. Ovules and seed nearly anatropous,  
ascending from near the base  
of the cell.

I have not seen the plant of the  
Fueje Islands referred by Dr. Seemann  
to *M. phyllinoides*, Labill.; <sup>the latter</sup> an upright  
species shrub, with axillary and solitary  
subsessile heads.

Myrmecodia, Jack.

1. Myrmecodia imberbis, sp. nov. (Tab. .)

M. imermis; foliis lanceolato-  
ulato-oblongis; corolla tubulosa  
calyce cum ovario <sup>multoties</sup> ~~quadrifido~~  
longiore (intus <sup>nuda</sup> glaberrima); stylo  
simplicissimo; stigmate quadri-  
<sup>tubercu</sup> ~~lobato~~ ~~apiculato~~ indurito villosa-lanato-  
ciliato cincto; fructu obpyrami-  
dato quadrilobo, pyrenis 4 corneis.

Tab. Muthuata, one of the Feejee  
Islands, in forests, at the elevation of  
2000 feet.

Shrub parasitic or pseudo-para-  
sitic on trees by a dilated, naked,  
tuberous base cavernous within; the  
dichotomous branches somewhat fleshy,  
unarmed; the whole plant smooth and  
glabrous. Leaves thickish, obscurely  
veined, about 2 inches long, short-petioled;



lanceolate-oblong or narrowly spatulate-oblong, obtuse or acutish, the base mostly acute. Stipules ~~scabrous~~ <sup>very</sup> short, ~~truncate~~ <sup>naked</sup> sheath, caducous. Flowers sessile and crowded in small fascicles in the axils of the leaves. Calyx campanulate, about a line and a half long; the limb or free portion ~~about~~ <sup>about</sup> equalling the adherent portion, truncate and entire. Corolla <sup>white, reddish?</sup> ~~reddish~~, <sup>thickish, from 6 to 9 lines</sup> ~~nearly~~ <sup>about</sup> half an inch in length, tubular, 4 cleft, perfectly glabrous and naked within as well as without, no scales or appendages in the throat; the lobes ~~narrowly~~ <sup>lanceolate</sup> oblong, valvate in aestivation. Stamens 4, inserted in the throat of the corolla, glabrous; filaments complanate, lanceolate, short; anthers oblong-linear, obtuse, attached a little above the sagittate base, in the bud convoluted in a ring around the summit of the style, the <sup>dilated</sup> stigma covering the aperture. Pollen-grains very large, spherical. Style filiform, perfectly entire, ~~stigma~~ terminated by a disciform stigma, consisting of four <sup>small rounded</sup> ~~minute~~ apiculate lobes, ~~surrounded~~ subtended by a kind

120  
of indusiate margin which is fringed  
by a circle of ~~cobine~~ arachnoid hairs.  
Ovary short, 4-celled, with a single  
antrous ovule erect from the base  
of each cell. Drupe in the dried spe-  
cimens 3 lines long, obpyramidal and  
upwardly somewhat 4-lobed, the trun-  
cate summit crowned in the centre  
with the persistent annular limb  
of the calyx which is filled by the  
projecting <sup>large and fleshy</sup> epigynous disk: ~~pyrene~~  
sarcocarp thin: pyrene 4, with  
plane sides, an acute internal angle,  
and a roundish back, enlarged and  
gibbous upward; the putamen rather  
thick, smooth and even, of a hard horny  
texture. Seed attached to the tapering  
base of the cell by a small funiculus,  
<sup>incorporated at the upper end,</sup> conformed to the cavity: testa thin.  
Embryo in the axis of the <sup>soft</sup> fleshy al-  
bumen and of nearly its length,  
greenish, terete, ~~somewhat~~ <sup>inferior, gradually</sup> incurved  
above, the radicle <sup>long</sup> ~~slightly~~  
<sup>- thickened</sup> clavate, downward, about thrice the length  
of the narrow and flattish-semiterete coty-  
ledons.

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However it may be with the two species figured by Gaudichaud with bifid styles and lacinate-cleft stigmas, the present is undoubtedly a genuine representative of Jack's genus Myrmecodia, and its stigma, as here described and figured, probably corresponds with the "stigma simplex tomentosum" of M. tuberosa. At the same time our plant differs from all other known species in wanting altogether <sup>with</sup> the beard in the throat of the corolla, as described by Jack and figured by Gaudichaud, and the fornicate scales mentioned by Blume. The pyrenae, moreover, are far from being chartaceous. There is considerable confusion about the <sup>one or two</sup> ~~two~~ species in the books, which the Dutch botanists ought to clear up.

Plate — Myrmecodia imberbis,  
with the cellular-enlarged attachment. Fig. 1. A flower. 2. Corolla laid open. 3, 4. Stamens, front and back view. 5. Pistil, and the <sup>limb</sup> ~~tube~~ of the calyx laid open to show the large epigynous disk. 6. Vertical section of the calyx and ovary. 7. Summit of the style with the indusiate stigma. 8. Drupe. 9. Vertical section of the same. 10. Transverse



section of the same. 11. A seed. 12. The embryo.  
The details are magnified.

Hydnophytum, Jack.

1. Hydnophytum longiflorum, Sp. nov.

It. foliis elongato-oblongis; corolla gra-  
cillima (sempipollinari) intus glabra,  
tubo lobis oblongis pluries longi-  
ore.

Itab. Ovolum, one of the Freije  
Islands, at an elevation of 1000 feet;  
growing on the trunks and branches  
of trees.

(glabrous.)  
Pseudo-parasitic, Branches ap-  
parently slightly fleshy. Stipules extremely  
short, truncate, caducous. Leaves  
thickish,  $2\frac{1}{2}$  to 4 inches long, 9 to 18 lines  
wide, narrowly oblong, obtuse, often acute  
at the base, on distinct but very short  
petioles, obscurely feather-veined. Flowers  
clustered and sessile in the axils of the  
leaves in the manner of Myrmecodia.  
Limb or free portion of the calyx very short,  
truncate, ~~or~~ very indistinctly repand-toothed.

Corolla hypocrateriform with a slender elongated tube, half an inch in length, <sup>naked and</sup> glabrous inside; the lobes 4, oblong, obtuse, apparently valvate in aestivation. Stamens 4, inserted in the throat of the corolla; filaments very short; anthers oblong. Style filiform; stigmas 2, petaloid, reniform-ovicular. Ovary 2-celled. Ovules solitary, erect. Drupe obovoid, ~~the~~ obtusely apiculate with a conical-truncate epigynous disk, which projects beyond the ~~vesti~~ ~~very~~ short vestiges of the very short limb of the calyx; sarcocarp thin; putamen 2-celled, ~~cross~~ between chartaceous and cartilaginous; the cells at maturity ~~fertile~~ perhaps fissile at the top. Seed (erect) and embryo nearly as in Myrmecodia.

From the lack of materials the above description is drawn in part from sketches of <sup>any analyses</sup> Mr. Rich, which accompany the specimen. In this genus, if the analyses are correct, I should refer Gaundichaud's Myrmecodia inermis and his M. echinata, neither of which can be Jack's M. tuberosa. Like our M. imberbis, the present species differs from its congeners in the longer corolla glabrous and naked within.

Mephiti'dia, Reinw., Blume.

Two specimens of related if not of the same species, <sup>apparently</sup> of this genus, were collected in the Majai-jai Mountains, Luzon. But they are insufficient for determination or description.



~~Dec 11 1891~~ \*\*\*\*\*

~~24. Lyttelton~~

~~From Mr. Dickson~~

Suteria, St.

1. Suteria Hookeriana, Gardn.

Suteria Hookeriana, Gardn. in Hook. Lond.  
Jour. Bot. 4, p. 109.

Hab. Organ Mountains, Brazil, near  
Rio Janeiro. (In fruit.)

Geophila, Don.

1. Geophila reniformis, Don, Miq.

Hab. Feeje Islands. Upolu and  
Savai, Samoan Islands. Mountains near  
Baños, Luzon, Philippine Islands. Prof.  
Harvey likewise detected it at the Feeje  
Islands: the peduncles only one-flowered.

Calycosia, N. W. Gen.

*Calyx* tubo angusto; limbo valde  
ampliato infundibuli formi sca-  
~~mum~~ ~~membranaceo~~ ~~seu petaloideo~~, 5-lobis, lobis <sup>tante deciduo,</sup>  
~~rivis petaloideis~~ 5-fidis, lobis saepe  
inaequalibus ciliatis barbatis. Co-  
rolla calycem modice superans,  
tubulosa, fauce infundibuliformi,  
lobis 5 patenter apice cornicu-  
lato-cucullatis aestivatione valvatis.  
Stamina 5, faucibus corollae inserta,  
subinclusa: filamenta brevissima:  
antherae oblongo-lineares, basi  
bilobae. Stylus filiformis, basi  
disco epigynio elevato arcte circ-  
tus: stigmata 2 (v. 3), linearia  
seu filiformia. Ovarium bi(raro  
tri-)loculare. Ovula in loculis  
solitaria, e basi erecta anatropa.  
Drupa apice nuda, dipyrrena,  
rarius tripyrrena; pyrenis carti-  
lagineis facie planis. Semen cav-  
(vel concavis.)



itati conforme. Embryo in basi albuminis. aquabilis - cornei parvus; cotyledonibus late ovalibus planis radicula conica brevioribus et latioribus. — Frutices stipulis intra foliacis subvaginatibus vel fere discretis; sect. 1. ~~robusti~~ robusti, macrophylli, floribus capitato-congestis, capitulis bracteis latissimis membranaceis inciso-lobatis involucreatis ad apicem caulis cymoso-glomeratis (C. petiolata, C. sessilis); Sect. 2. graciles, minores, cymis ~~pedunculatis~~ nudis laxifloris, floribus pedicellatis, calycis limbo late infundibuliformi petaloideo repando-quinquelobo. (C. pubiflora, C. Milnei)\*

1. *Calycosia petiolata*, sp. nov. (Tab. )

C. foliis obovatis seu obovato-lanceolatis in petiolum attenuatis; calyce breviter quinquelobo, lobis oblongis; pyrenis dorso nudo costatis.

Hab. Ovolau, Feejee Islands; in forests.

\*

Since the characters of this genus were published in the Proceedings of the American Academy of Arts and Sciences, vol. 4, p. 47, Dr. Storker has placed in my hands specimens of two additional Polynesian species which may be referred to the same genus, although their flowers are in ~~open~~ loose cymes:—

*Calycosia pubiflora* (sp. nov.): foliis membranaceis glabris oblongo-lanceolatis acuminatis in petiolum attenuatis (4-6-pollic.); cyma laxa trichotoma cum calycisque tubo viscoso-pubescentibus, limbo crateriformi extus puberulo; drupa turbinata, pyrenis chartaceis intus excavatis. — Viti-Levu, one of the Feejee Islands, in the district of Kamoria, 96 miles inland, and 3000 feet above the sea (flowering specimen); also in "woods and mountains, Dec." (in fruit), Mr. Milne. "A large shrub." Calyx apparently white, the limb half an inch in diameter. Bractea hardly exerted.

*Calycosia Milnei* (sp. nov.): glaberrima; foliis oblongis sublanceolatisve basi attenuatis longiuscule petiolatis punctulatis (3-4-pollic.); cyma diffusa repetito-trichotoma; pedicellis gracilibus. — "Fruticulus, Nov. 1853: a slender shrub, frequent on high ground." Milne, collected in the voyage cruise of the Herald in some part of Polynesia. Flowers much as in the foregoing preceding species but perfectly glabrous as also is the inflorescence. Feejee Islands, Seemann, 1850. <sup>6 inches long.</sup>



Apparently a stout shrub,  
nearly glabrous, with the leaves  
crowded at the summit of the thick  
branches. Stipules in *trafolia* =  
cens. united below into a short <sup>and somewhat hairy</sup> sheath,  
above separating into four ovate-tri-  
angular spreading lobes. Leaves  
about a foot long, ovate, oblong,  
or lanceolate-oblong with the base  
tapering into a distinct petiole of  
one or two inches in length, slightly  
acuminate, glabrous, except some  
hairiness along the midrib and  
veins beneath, conspicuously feather-  
veined, the primary veins 12 to 16 pairs.  
Inflorescence terminal, in a ses-  
sile glomerate cyme, composed  
at first and of several <sup>many-flowered</sup> crowded capituli form clusters,  
each surrounded by an involucre  
formed of one or more ~~broad and~~  
thin-membranaceous, incisely lobed  
or toothed, reticulate-veiny, broad bracts,

which almost equal the flowers; they  
 are villous-ciliate, but otherwise  
 glabrous. Flowers on very short pedi-  
 cels, the lateral ones bracteolate:  
 bractlets oval or oblong, entire or  
 somewhat incised at the summit.  
 Tube of the calyx generally inconspic-  
 uous and narrow in blossom, obconic-  
 cal or clavate; the limb remarkably  
 amplicate, campanulate-funnel form,  
 thin and membranaceous and per-  
 haps more or less petaloid or colored,  
<sup>reticulate-veiny,</sup>  
~~about~~ half an inch long, cleft often  
 rather unequally about one third of  
 its length into 5 oblong and obtuse  
 lobes, glabrous, except that the lobes  
 are densely ciliate-bearded with villous  
 and many jointed hairs. ~~Stamens~~  
~~inserted on the throat of the corolla~~  
 Corolla scarcely twice the length of the  
 calyx and very much narrower than  
 it, tubular, with a somewhat funnel-  
 form throat, naked within, and 5



(The color of the flowers not recorded)

oblong spreading lobes; these have hooded-corniculate tips, and are val-  
vate in aestivation. } Stamens <sup>inserted</sup> ~~placed~~  
in the throat of the corolla; filaments  
very short, naked or slightly hairy;  
anthers oblong-linear, emarginate,  
deeply notched at the base. Epigynous  
disk remarkably elevated, closely sur-  
~~rounding~~ rounding the base of the  
long and filiform naked style;  
stigmas 2, narrowly linear. Ovary  
in the <sup>all</sup> flowers examined narrow and  
inconspicuous, but with a single narrow  
ovule erect from the base of each of  
the two cells. In the fruiting  
specimens the bracts have all  
fallen and left a naked cluster of  
somewhat obovate <sup>oblong</sup> ~~and~~ and truncate  
drupes. These are said to be been  
red; they are naked at the summit,  
the limb of the calyx having disap-  
peared, very short-pedicelled, 3 or 4 lines

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long; sarcocarp thin. Pyrene 2 ob-  
long; ~~spherical~~ the pericarp car-  
tilaginous, rather thin, flat at the  
commisure, obscurely 3-4-angled  
dorsally, but not ~~grooved~~ sulcate  
nor costate. Seed conformed to the  
cell, inserted by a thin edge or margin <sup>at</sup> the very base of the  
cell, with a very thin adherent testa;  
the surface obscurely rugose or ir-  
regular; but the cartilaginous albumen  
is solid and even. Embryo near the  
base of the albumen, ~~about~~ scarcely  
a quarter of its length: radicle in-  
ferior, elongated conical; cotyledons thin  
and flat, round-oval, considerably  
broader and much shorter than the  
radicle.

This and the following species  
belong to a striking new genus of  
the Psychotrieae (including Cepha-  
elideae), which is well distinguished  
by its large and ~~deciduous~~ funnel-  
form, deciduous limb of the calyx,  
which suggests the generic name.

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The ovaries ~~are~~ in the flowers examined are so small compared with the abruptly dilated calyx, and so continuous with the pedicel, as to suggest the <sup>suspicion</sup> ~~idea~~ that the blossoms are polygamous; but they are ovulate, and the style and stigmas are apparently ~~perfect~~ well-formed. The materials for the study of the floral ~~structure~~ <sup>are</sup> structure ~~is~~ scanty. Although not wholly satisfactory the plate, as engraved under the superintendence of Mr. Rich, is left untouched, excepting that I have added the details of the fruit and seed.

Plate.      Calycosia petiolata.

Fig. 1. A detached flower. 2. A calyx laid open, showing the contained young corolla in bud. 3, 4. Stamens. 5. Summit of a corolla laid open. 6. Pistil, the calyx-limb cut away. 7. Vertical section of the ovary. 8. A drupe. 9. Vertical section of a drupe. 10. Transverse section of a drupe. 11. One of the pyrene, ventral view. 12. Section of the same, ~~and~~ edgewise. 13. Embryo. The details all magnified.



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(Tab. )

2. Calycosia sessilis, sp. nov.

C. foliis spatulato-lanceolatis basi  
sensim angustatis sessilibus;  
floribus arcte <sup>capitato</sup> congestis;  
<sup>^</sup> Calyce ultra medium ~~quinquefid~~  
quinquefido, lobis linearibus;  
pyrenis dorso tricarimatis.

Hab. Savai, one of the Samo-  
an Islands.

Shrub 4 to 6 feet high, ~~with~~  
~~the~~ Leaves crowded at the summit  
of the thick branches, a foot or more  
in length, 2 to 3½ inches wide, spatu-  
late-lanceolate with a long-attenuate  
base, sessile, membranaceous, glabrous.  
The venation H. as in the preceding  
species. Flowers all densely crowded into  
a large ~~and sessile~~ mass or capitulum,  
~~occupying~~ which is sessile at the  
summit of the stem, surrounded by

the ample leaves and fulcrate  
with thin and membranaceous  
bracts in the manner of *C. petio-*  
*lata*; but these appear to be nar-  
rower, ovate, ~~or~~ oblong, or oblong-lan-  
ceolate, and more scarious or colored.  
Inner bracts ~~or bractlets~~ <sup>narrower</sup> lanceolate  
or linear, laciniate-trifid or  
entire, strongly bearded like the  
lobes of the calyx along the mar-  
gins and slightly so on the back.  
Pedicels of the earlier flowers 2 or 3  
lines long. Limb of the calyx as  
long as in *C. petiolata*, but nar-  
rower; the undivided portion more  
tubular but proportionally shorter;  
the 5 often somewhat unequal lobes  
~~narrowly linear obtuse~~, linear-  
ligulate, obtuse, longer than the  
whole tube, a little shorter than the  
their margins ciliate with a beard of brownish, many-jointed, and  
concolorous <sup>apparently glandular</sup> hairs. ~~the~~ as far as ~~the~~ can be  
made out, the structure of the corolla,

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Stamens, style, &c. accords with the  
that of the preceding species. Ovary  
also similar, but sometimes trime-  
rous. Drupes oblong, 4 lines in  
length, obtuse but not truncate,  
grooved in the dry state; the 2 or  
sometimes 3 cartilaginous pyrena flat  
at the commissure, carinate on the  
back with <sup>three</sup> or sometimes ~~two~~ rather  
sharp ridges separated by interme-  
diate grooves. Seed conformed to  
the cavity, and similarly ridged  
or grooved on the flattish back,  
the ventral face plane or nearly  
so. Albumen and embryo as in ~~the~~  
C. petiolata.

Plate      Calycoria sessilis. Fig.  
14. Transverse section of a drupe. 15. Dorsal,  
and 16. Ventral view of a pyrena. 17. Section  
of the same edgewise. 18. Embryo. Various  
magnified.



# Straussia.

Calyx tubo turbinato; limbo cupu-  
liformi truncato vel repando brevi.  
Corolla brevis, 4-5-fida; lobis  
tubo æquilongis seu longioribus  
activatione valvatis. Stamina 4-5,  
fanci inserta: filamenta brevia;  
anthere oblongæ, basi fixæ. Stylus  
filiformis: stigmata 2 sub dilatata.  
Orarium biloculare. Ovula in  
loculis solitaria, e basi erecta,  
anatropa. Drupa sapissime  
pyriformis, di-pyræna; pyrenis  
chartaceis vel tenuiter cartilagineis  
plano-convexis levibus. Semen  
erectum, <sup>plano-convexum seu</sup> leviter menis coideum;  
testa tenui ~~erecta~~ adherente; Albumen  
~~cartilagineum~~ corneum, ventre  
sulco profundo clauso exaratum,  
<sup>interne</sup> ~~intus~~ ~~non~~ fissura lata tenui sub-  
bilamellatum. Embryo parvus

Coffea vel Psychotria. — Arbores  
aut frutices Sandwicensis; stipulis  
interpeticularibus subconnatis obtusis  
max deciduis; cyma terminali  
multiflora <sup>longe</sup> pedunculata; floribus  
parvis.

Coffea spec. spuria, ~~Sandwicensis~~  
Cham. & Schlecht. in Linnaea, 4,  
p. 32-36, excl. sp. no. 2.

Coffea, Sect. Straussia, DC. Prodr.  
4, p. 502, excl. sp.

Spionema, Nutt. ined. in Herb. Hook.

# 1. Straussia Kaduana, (Sw.)

S. foliis subsessilibus cuneato-obovatis,  
junioribus subtus ad nervos costas  
cum pedicellis calycibusque saepis-  
sime ferrugineo-pilosis; Corollae  
fauce ~~sanda~~ imberbi; drupa

pyriformi <sup>sub</sup> quadrangulata.

Coffea Kaduana, Cham. & Schlecht.  
in Linnaea, l.c.; St. l. c.; Hook.  
& Arn. Bot. Beech. p. 86; Walp.  
in Rel. Meyer. p. 352.

Apionema obovata & A. penduli-  
flora, Nutt. in Herb. Hook.

Hab. Oahu, Sandwich Island,  
in the mountains behind Honolulu.

~~A shrub or tree, with terete branches, or the branchlets more or less compressed.~~

A good detailed description of this shrub or tree is given in the Linnaea, where it was first made known, by Chamisso and Schlechtendal. We have only to add what is needed to complete the account. The fine ferruginous pubescence of the young



130

14

shoots, foliage is variable, being slight and sparse on the lower surface of some young leaves, but <sup>more</sup> copious and persistent on the midrib and veins of others, even when full grown. The leaves are ovate or oblong-ovate, usually with a cuneate-attenuate base and ~~almost~~ sessile, or with a margined petiole only a line or two in length; they vary from 2 to 4 or even 6 inches in length, and from one to 3 inches in width. Peduncle 1 to 5 inches long, commonly glabrous; the small bracts <sup>vs.</sup> ferrugineous-ciliate. Flowers only 2 lines long, greenish. Limb of the calyx cupulate, a little shorter than the turbinate ovary, truncate, but repand <sup>as if</sup> ~~and~~ obscurely 4-5-toothed, usually a little hairy under a lens, but the margin scarcely or seldom ciliate. Corolla deeply 4-5-cleft; the lobes thick oblong, valvate in aestivation; they are probably widely spreading or reflexed in anthesis, as in the other species; but

15  
we have no expanded flowers. In  
the buds ~~they are naked~~ they are  
wholly glabrous and naked within.  
Anthers linear-oblong, on very short  
filaments. Style 2-cleft at the very apex.  
Ovary 2-celled. Ovules solitary and  
erect from the base of each cell.  
Fruit drupaceous, with a thin pulp,  
sarcocarp, pyriform, and commonly  
when dry having four rather salient  
ridges or costae, especially toward the  
tapering base, 5 to 7 lines long, obtuse  
or truncate at the apex, where it bears  
the vestiges of the very short limb of  
the calyx. Pyrene 2, separable at  
maturity, thin, of a chartaceous or  
somewhat cartilaginous texture, flat  
on the ventral face, convex on the back,  
smooth and even, or with a slight dor-  
sal ridge, at maturity bipartible by  
the dehiscence of the whole inner face (as  
in *Chasalia*, L.) in the manner describ-  
ed by Chamisso and Schlechtendal.

10

Seed erect from the base of the cell, on a ~~short and~~ broad and flat, scale-like funiculus, somewhat meniscoidal, and with a shallow notch at the summit, the <sup>slender</sup> shape on the <sup>concave</sup> ventral face furking just below the summit, ~~in~~ as described by Chamisso and Schlechtendal; the dorsal side nearly ~~straight~~ even; the thin and brown testa adherent to the ~~hard~~ corneous albumen. The ventral face of the albumen is furrowed for nearly its whole length by a deep but closed groove, which is transversely dilated at its termination. Entirely separate from this, there is commonly, if not always a broad ~~fur~~ but very thin fissure in the axis of the albumen, which in the transverse section appears as a lunate-curved line almost dividing the albumen into an outer and an inner plate. It is symmetrical, not lined by a membrane, and not



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tracable to an infolding of the seed, like that of <sup>a</sup> coffee-grain. Embryo <sup>small,</sup> near the base of the albumen, axile; radicle ~~slender~~ <sup>rather</sup> inferior; ~~longer~~ longer than the cordate foliaceous cotyledons.

These plants, <sup>(long since)</sup> dubiously referred by Chamisso and Schlechtendal to Coffea are but remotely related to that genus, which (although strangely <sup>left</sup> ~~placed~~ in the Psychotriaceae by Miquel, contrary to the assigned characters of the group) is justly <sup>clearly defined</sup> ~~limited~~ by Bentham as having "the arborescence and placentation of Ixora and Pavetta, with an axillary inflorescence and a peculiar seed". The present genus, which must retain DeCandolle's sectional name of Straussia, is allied to Chasalia, but well distinguished by the very short corolla as well as by the seed.

Plate Straussia Kaduana. Fig. 11, cluster of fruit, of the natural size. 12, Longitudinal, and 13, transverse section of a drupe, magnified. 14, Ventral, and 15, ventral view of a pyrene, magnified. 16, Embryo, magnified.

2. Straussia Mariniana, (Tab.)

S. <sup>total</sup> fere glabra; foliis breviter seu  
brevissime petiolatis obovato-  
oblongis ellipticisve; corolla fauce  
inter stamina breviter barbata;  
drupa obovato-pyriformi.

Coffea Mariniana, Cham. &  
Schlecht. l.c.; Db. l.c.; Walp.  
l.c.

C. Chamissonis, Hook. & Arn.

Bot. Beech. p. 86, vix Walp.  
Apionema pulcata, Nutt. in Herb.  
Hook.

Hab. Oahu, Sandwich Islands,  
on the Kaala Mountains, &c. - Collected,  
along with the preceding, by <sup>most</sup> ~~all~~ the  
botanists who have visited these isl-  
ands.

This is distinguished, I fear not  
definitely enough - from the preceding  
by being glabrous throughout (or rarely  
with the midrib underneath and the pe-  
duncle pilose with straight and not  
ferugineous hairs) by the less cuneate  
leaves, which often have petioles from 2  
to 5 lines in length, and by having  
a <sup>short-</sup>bearded spots ~~at the~~ in the throat  
of the corolla, at the base of each lobe,  
between the ~~very short~~ stamens. These  
were overlooked by Hooker and Arnott,  
in describing their Coffea Chamissonis,  
which is certainly of this species; al-  
though present <sup>in our specimens</sup> they are not so conspicu-  
ous as would be supposed from Chamis-  
son's description. Good materials are  
<sup>needed.</sup> ~~wanted~~ to show whether they are truly  
and uniformly wanting in S. Kaduana.  
The leaves vary much in shape, from  
obovate-elliptical to narrowly cuneate-  
oblong. Margin of the calyx perhaps  
more nearly entire than in the pre-



ceding, glabrous. Lobes of the corolla  
 oblong, thick, <sup>"greenish or yellowish-white"</sup> ~~as long as the tube,~~  
 valvate in aestivation, in anthesis recur-  
 ved, as long as the tube, Filaments  
 short, naked. Anthers oblong, fixed by  
 the base. Style filiform, thickened  
 upward; stigmas 2, oblong, obtuse,  
 thickish. Ovary, 5, as in the last:  
 the drupe also very similar, perhaps  
 rather smaller and ~~not~~ more obovate,  
 less ribbed when dry, or with slight  
 grooves in place of the ribs.

Plate, Straussia Mariniiana.

Fig. 17. ~~Fruit, of the~~ cluster of fruit, of  
 the natural size. 18. Magnified trans-  
 verse section of a drupe. 19. Ventral  
 view of one of the pyrene.

(Tab. )

3. Straussia Hawaiensis, Sp. Nov.

*S. foliis longius petiolatis obovatis*  
*calycibusque* <sup>(junioribus rufis ferrugineo-pubescentibus)</sup> *glaberrimis; corollae*  
*fauce inter stamina barbata;*  
*drupa parva ovoidea vel ob-*  
*ovata.*

Hab. Hawaii, Sandwich Islands,  
 in the district of Puna, and in  
 the forest near the crater Lua Pele.

A slender tree, with a slender trunk, 20-  
 50 feet <sup>high</sup> ~~high~~. Glabrous throughout, or some-  
 times with minute ferruginous  
 pubescence on the midrib and veins  
 of <sup>the</sup> young leaves, and on the branches  
 of the cyme. Leaves obovate, with  
 a more or less cuneate base, 3 to 5 1/2 inches  
 long, and 2 or 3 inches broad, rounded  
 at the summit, and often tipped with a  
 small and abrupt blunt point, of a  
 firm chartaceous texture, the 13 to 20

Pairs of veins rather conspicuous underneath; the base tapering into a petiole an inch in length. Stipules ovate, very obtuse, somewhat connate, early deciduous. Peduncle terminal, one or two inches long, byrne as in the preceding, many-flowered, the primary and the secondary divisions mostly verticillate, thickish. Limb of the calyx cupulate, about the length of the ovary, truncate, entire, glabrous. Corolla  $1\frac{1}{2}$  or 2 lines long; the 5 oblong lobes as long as the tube, thick, valvate in aestivation, at length reflexed; the throat with a bearded spot at the base of each lobe. Style, ovary, &c. as in the foregoing species. Fruit (apparently mature) at most 3 lines in length, short-obovate, with a slightly narrowed base; the pyrene, seed, &c. similar in structure to the two preceding species.



The conspicuously petioled and usually large leaves, and the small fruit are relied upon for distinguishing this species from ~~the~~ S. Mariniana.

Plate Straussia Hawaiensis,  
 Fig. 1. A flower-bud. 2. Diagram of the  
 aestivation of the corolla. 3. Expanded  
 blossom. 4. Corolla laid open. 5.  
~~Longitudinal~~ Ovary in longitudinal section,  
 style, &c. 6. Cluster of fruit, of the natu-  
 ral size. 7. Vertical, and 8. Transverse,  
 section of a drupe. 9. Ventral view  
 of a pyrena. 10. Embryo. - All but  
 fig. 6 magnified.

Chasalia, Commers.

Chasalia, Commers. in Juss. Mem. Mus.  
p. 374; Benth. Niger Fl. p. 417.

Polyozus, ~~Blume~~ Lour. Fl. Coch. 1, p. 94?  
Blume, Bijdr. p. 947?

Cœlospermum, Blume, Bijdr. p. 994?

1. Chasalia { montana, Miq. ?  
craterispermum, sp. nov.

C. glaberrima; stipulis brevissimis vag-  
inato-concretis truncatis <sup>utrinque bipinnemulatis;</sup> ~~craterispermis~~  
~~foliis~~ foliis ovalibus basi acutis, venis  
primariis utrinque 8-9; ~~cymsa~~ ~~act~~  
~~laxiflora~~; <sup>calycis</sup> puctu ~~obovato~~  
globoso <sup>limbo</sup> integerrimo brevissi-  
mo nunc evanido coronato; pyrenis  
<sup>membris phoricis</sup> 2 crateriformibus extus intusque laevibus  
<sup>nec</sup> ~~hand~~ costatis nec sulcatis; semine  
tenui ~~crateri~~ acetabuli formi.

Chasalia montana, Miq. Fl. Ind. Bat. 2, p. 281?  
Psychotria membranifolia, Benth. in DC. Prodr. 4, p. 522?

Tab. Mangsi Islands.

Branchlets ~~terete~~ or nearly so, <sup>as far as preserved</sup> very glabrous, nodose. ~~Stipules very~~  
~~short, coarcted into a truncate sheath,~~  
~~hardly a line long, its margin at~~  
~~first minutely ciliate.~~ Leaves  
oval, obtuse or obtusely and slightly  
pointed with an abrupt acumination,  
acute at the base, or abruptly taper-  
ing into a petiole of an inch or little  
more in length, 5 to 9 inches long,  
and 3 to 4½ wide, entirely glabrous,  
light green and membranaceous in  
the dried specimen, perhaps a little  
succulent when fresh; the primary  
veins somewhat conspicuous underneath,  
8 or 9 on each side of the midrib,  
diverging nearly at a right angle;  
the loosely reticulated veinlets rather  
inconspicuous. Flowers not seen.  
They were apparently rather few, in a  
loose and sessile terminal cyme, the



primary branches of which are slender,  
but the pedicels short. Drupe  
globose or slightly pyriform, almost  
half an inch long when mature,  
when young crowned with a ~~short~~ thin  
ring less than half a line high, which  
seems to be the whole limb of the calyx,  
and which disappears from the mature  
fruit: sarcocarp thin: pyrene 2,  
about 4 lines wide obovate-obicular in  
circumscription, hemispherical, smooth  
and even on the back with only  
faint indications of a central ridge  
or nerve, deeply ~~concave~~ <sup>but not grooved</sup> hollowed  
out on the inner face; the putamen  
<sup>of cartilagineo.</sup> chartaceous in texture, at length  
fissile around the margin so as to  
separate or be separable into two con-  
cavo-convex <sup>thin</sup> valves. Seed conformed to  
the cavity of the putamen, erect,  
menisoidal or crateriform, thin, with  
a delicate adherent testa. Albumen

corneous, solid and even. Embryo next  
its base, very small; the radicle in-  
ferior, about the length of the ovate  
and thin cotyledons

The materials are very imperfect,  
except for the fruit.

2. Chasalia Arnicae, Sp. Nov.

C. glaberrima; stipulis brevissimis  
vagin<sup>at</sup>ibus ~~truncatis~~; foliis oblongis  
ovalibusque basi acutis, venis  
primariis <sup>utrinque</sup> 5-8; cyma laxiflora  
brevis pedunculata; calycis tubo  
ultra ovarium obovatum produc-  
to et in limbum crateriformem  
~~subito ex~~ subquadridentatum  
abrupte expanso; <sup>fructu obovato;</sup> pyrenis 2 ~~stova-~~  
~~ti~~ apice subtridentatis dorso <sup>leviter</sup> car-  
inatis ~~costatis~~ Ventre concaviusculis  
nond sulcatis; semine scutelli formi  
incurvo.

Hab. Tongatabu, one of the  
Friendly Islands.

"Shrub 6 to 8 feet high", glabrous  
throughout, with greenish terete branches.  
Stipules very short, converted into a <sup>truncate</sup>  
sheath or ring, ~~deciduous~~ <sup>than</sup> very thin and



Scarious, deciduous or wearing away.  
Leaves much as in the preceding  
species, but more inclined to be oblong,  
3 to 5 inches long,  $1\frac{1}{2}$  to 3 inches wide,  
membranaceous, with 6 or 7 pairs of  
primary veins; petiole an inch or less  
in length. Cyme terminal, on a pe-  
duncle not over half an inch in length,  
loosely rather few-flowered; pedicels  
shorter than the calyx. Calyx (after  
flowering) oblong-ovoidate, the obovate  
tube <sup>contracted and</sup> extended a line and a half beyond  
the ovary, then abruptly dilated into  
a cup-shaped, <sup>tasse</sup> obscurely 4-toothed, folia-  
ceous limb, of nearly 2 lines in length.  
"Corolla tubular, 4-cleft." Young fruit  
obovoid, <sup>crowded with the raised curves length of the</sup> ~~two~~ 2-celled, <sup>calyx</sup> ~~Pyrene~~ <sup>"Fruit laid"</sup>  
obovate, smooth, ~~especially~~ the  
strongly convex back carinate-~~ridged~~  
<sup>above</sup> ~~ridged in~~ the middle, ~~especially~~ with  
a rather sharp ridge which vanishes  
below; the ventral face slightly con-  
cave, the truncate summit bearing  
a medial and two marginal, short and

blunt teeth: seed conformed to  
the putamen <sup>disposed</sup> ~~inclined~~ to split into  
an outer and an inner valve, as  
in the foregoing species. Seed  
conformed <sup>except from its base, 3 lines long</sup> to the cell, somewhat  
menisoidal, but much thicker than  
in *C. craterisperma*, moderately con-  
cave on the inner face, where it is  
marked with a central and slightly  
impressed trilincate groove, the trunc-  
ate summit obscurely 3-toothed. Em-  
bryo small, at the base of the corne-  
ous albumen.

Since the preceding was written, I  
have had the opportunity to examine a fine fruiting  
~~plate~~ *Chasalia* ~~specimen~~ <sup>on</sup>  
specimen of this species gathered ~~at~~ <sup>on</sup> Navan  
or Lifuka. Drupe half an inch long, exclu-  
sive of the persistent and foliaceous cup-shaped  
limb of the calyx, probably globose when fresh.  
Seed thick (the cross section 3 lines long and  
1½ lines ~~in~~ thickness), menisoidal, but the in-  
ner face only lightly concave, destitute of ridges  
or grooves.

3. Chasalia pyriformis, sp. nov.

C.? glaberrima; stipulis vaginantibus  
truncatis brevibus; foliis oblongis  
basi acutis, venis primariis utrinque  
7-9; cyma sessili pauciflora?; fructu  
oblongo-pyriformi calycis  
limbo cupulato sub-4. dentato  
coronato; pyrenis 2 ventre planis  
dorso ecar leviter tuberculatis  
non carinatis; semine scutellifor-  
mi planiusculo.

Hab. Samoa or Navigators'  
Islands.

A single ~~and~~ specimen, in fruit,  
occurs in the collection, which I <sup>place</sup> ~~refer~~  
<sup>in</sup> Chasalia on account of its mani-  
fest affinity to the foregoing species,  
but it might as well, perhaps, be  
referred to Psychotria. The truncate  
vaginate stipules are like those of C.



Anicorum and are equally deciduous, only the uppermost remaining. Leaves much like the last, light green, very glabrous, 4 or 5 inches long, about 2 inches wide, tapering into a rather short petiole. The cyme appears to have been strictly sessile at the summit of the ~~branch~~ ~~stem~~, short, and few-flowered. Flowers not seen. Drupe oblong or elongated-pyriform, 8 lines long, crowned with the limb or free portion of the calyx ~~much~~ smaller than that of C. Anicorum, only  $1\frac{1}{2}$  lines long; Sarcocarp thin; pyrene obovate-oblong, 3 lines broad, thin, cartilaginous, plano-convex, not grooved nor costate, but obscurely tuberculate, or rugose, or uneven on the back, especially near the truncate or slightly emarginate summit. Seed scutelliform, lightly concave on the inner face, and obscurely uneven, like the peritamen, on the back; otherwise nearly as in C.

Anicorum. - Addition materials  
of this ~~species~~ and the foregoing are  
needed for further comparison.

Plate

In Remy's collection from Oahu,  
Sandwich Islands is a Chasalia? (or  
perhaps a Psychotria) too imperfect  
for determination.

= Psychotria hexandra. W. Mann.

Psychotria, Linn.

\* Oceanica.

(Tab. )

Psychotria Brackenridgii, sp. nov.

P. stipulis caducis; foliis oblongo-lanceolatis utrinque acutis vel acuminatis basi in petiolum longiusculum angustatis fere glabris chartaceis; pedunculis 1-5 terminalibus elongatis cymam trichotomam multifloram gerentibus cum radiis pedicellisque ferrugineo-puberis; fructibus ovalibus 8-costatis truncatis calycis limbo ~~per brevem caps~~ parvo cupuliformi coronatis puberulis; pyrenis tenuiter cartilagineis intus planis dorso convexo carinato-tricostatis.

Hab. Ovalau, Feejee Islands.  
(In fruit only.)

~~Appare~~  
~~the~~



of *Psychotria*

Of all our species this most approaches those which I have referred to *Chasalia*. ~~It is probably a large shrub,~~ in the fruit. The flowers are unknown. Branches stout, nodose, glabrous. Stipules not seen, having fallen from the specimens. Leaves of a rather firm ~~for~~ consistence, oblong-lanceolate, 6 or 8 inches long,  $1\frac{1}{2}$  to  $2\frac{1}{2}$  wide, more or less acuminate, tapering at the base into a petiole of one or two inches in length, glabrous, except a few small hairs along the <sup>stout</sup> midrib underneath; the primary veins prominent, about 12 pairs; the veinlets obscure. Peduncles terminal, 3 inches long, in one specimen solitary, in the other there are 5 in <sup>sessile</sup> ~~an~~ umbel, clothed with a fine rusty pubescence, as is the rest of the inflorescence. Gynaeceum umbrose, rather small, and apparently loose and open twice or thrice trichotomous; the primary rays about

half an inch long, slender; pedicels in fruit from 2 to 4 lines long. Drupe  $4\frac{1}{2}$  or 5 lines long, short oval, very obtuse at the base and truncate at the summit, the centre of which is apiculate with the persistent, small, obscurely 4-toothed limb of the calyx, of scarcely more than half a line in length. In the dry state, the sarcocarp being thin, it is pretty conspicuously 8-ribbed, and this is noted to be the case in the fresh plant. Pyrene 2, plano-convex, <sup>3 lines wide,</sup> the inner face not grooved nor concave, the outer ~~3-ribbed~~ marked with 3 sharp and salient equidistant ribs, the summit retuse; the ~~putamen~~ base thin and obtuse; putamen thin and cartilaginous, or chartaceo-crustaceous. Seed erect, flat, <sup>and thin,</sup> scutelliform, somewhat concave on the ~~inner~~ ventral face, acutely 3-ribbed on the dorsal.

Plate *Psychotria Brackenridgii*, Fig. 15. Peduncle and fruit, of the natural size. 16. Longitudi-

=nal, and 17, Transverse, section of a drupe, magnified. 18. Dorsal view of one of the pyrenes, magnified.

(Tab. )  
Psychotria closterocarpa, Sp. Nov.

*P. glabra*; foliis oblongo-lanceolatis magnis basi in petiolum longum angustatis, venis primariis conspicuis utrinque 15-19; cymis terminalibus ~~per~~ pedunculatis; fructibus pedicellatis fusi formibus limbo calycis cupulato truncato collo sublato coronatis; pyrenis lineari-oblongis apice bidentatis intus planis dorso obtuse tricostratis suberoso-crustaceis.

Hab. Savai, one of the Samoan or Navigator's Islands.

Branches stout. Stipules not seen. Leaves perhaps somewhat fleshy, glabrous, oblong-lanceolate, 7 to 12 inches long, 2½ or 3 inches wide, acute at the base or at both ends; the primary veins 15 to 19 pairs, prominent



10-  
on both faces, diverging nearly at a  
right angles ~~from~~ <sup>with</sup> the strong midrib,  
and ~~some~~ <sup>petioles 2 1/2 or 3 inches long,</sup> varishing near the margin;  
veinlets not conspicuous: Flowers not  
seen. Cymes apparently 3 from  
the summit of the branch, on pedun-  
cles of 3 or 4 inches in length, Drupes  
pedicelled, fusiform, about 7 lines long,  
and crowned with a cupuliform truncate  
limb of the calyx a line and a half  
long, which is continuous with the  
more or less narrowed apex of the fruit,  
and a little enlarged upwards: Sarco-  
carp thin. Pyrene 2, rather narrow,  
5 or 6 lines long, <sup>2 lines wide,</sup> plano-convex, of a rather  
corky crustaceous texture, flat within, obtu-  
sely 3-ribbed on the back, the apex having a  
narrow notch between two short and blunt  
tooth-like projections. Seed conformed to the  
cell; the inner ~~sur-~~ face slightly  
concave, the outer 3-ribbed. Albumen  
cartilaginous. - Apparently a well-marked  
species; but characterised from imperfect  
materials except as to the fruit.

Plate , Psychotria closteri-  
carpa. Fig. 36, Drupe, of the natural  
 size. 37, Magnified transverse section  
 of the same. 38, Dorsal view of a py-  
 renia, magnified.

(Tab.)

Psychotria Forsteriana, Sp. Nov.

P. glabra; stipulis tenuiter & scariosis  
caducis; foliis membranaceis ob-  
longo-lanceolatis <sup>sem lanceolatis</sup> ~~nunc~~ obovato-  
oblongis utrinque acuminatis  
modice petiolatis, Venis primariis  
9-11-jugis; Cyma <sup>multiflora</sup> terminali compo-  
sitae tripartita vel 3, ~~radis~~ pedun-  
culis radiisve petiolum aequan-  
tibus; floribus confertis pedicel-  
latis parvis; calycis limbo expan-  
so ~~crateri~~ integerrimo ovario  
aequilongo; corolla brevi ad medium  
usque ~~5-partita~~ <sup>fauce</sup> 5-fida; <sup>villosissima</sup> fructibus  
obovatis retusis, junioribus fere  
obcordatis; pyrenis dorso obtuse  
costatis subrugosis intus concaviscu-  
lis.

Psychotria Asiatica, Forst, Prodr. p.  
16, no. 90?



Var.  $\beta$ . Vitiensis: foliis longius petio-  
latis (marginebus aut planis aut  
undulatis); fructu vix retuso.

Hab. Tahiti, Society Islands. Also  
Samoa and Navigators' Islands.

Var.  $\beta$ . Ovolau, Viti or Feejee Islands.

Tree or shrub glabrous, with  
slender and somewhat compressed, rather  
herbaceous branchlets. Leaves mem-  
branaceous, thin, bright green and  
of the same hue both sides, oblong-  
lanceolate, or sometimes verging to oblong-  
obovate, <sup>sometimes merely lanceolate</sup> mostly acuminate at both ends,  
<sup>from one to</sup>  $\frac{4}{5}$  to 8 inches long,  $\frac{1}{2}$  or  $2\frac{1}{2}$  inches wide,  
the 9 to 11 pairs of primary veins slender  
but rather conspicuous: petiole slender half  
an inch to an inch in length. Stipules  
<sup>thin and scarious on nascent shoots</sup> very caducous,  
~~very short, somewhat united, truncate,~~  
~~leaving a narrow ring.~~  
~~Caducous,~~ <sup>by me</sup> terminal, many-  
flowered, sessile and triple, or single  
and short-peduncled, the branches verti-  
cillate; pedicels obscurely pubescent,  
about the length of the flowers, which  
are barely 2 lines in length. Calyx-tube  
turbinate, <sup>not longer than the</sup> ~~scarcely as long as~~ the expanded  
pateriform <sup>and</sup> entire limb. Corolla cam-

panulate-funnel form, white, 5-cleft.  
(rarely 6-cleft) about to the middle.  
<sup>very</sup> villous in the throat at the insertion  
of the stamens; the oblong obtuse lobes  
valvate in aestivation. Ovary erect  
from the base of the cell. Style deeply  
2-cleft, but the two filiform lobes  
or stigmas often united by their edges  
into a linear <sup>or upwardly dilated</sup> ~~elevate or fl.~~ body.  
Drupe short-obovate, about 4 lines  
long, retuse at the naked summit, or  
when ~~partly grown~~ the pulp is not  
much developed obovate. Pyrene  
turgid, rather cartilaginous, rather ob-  
scurely 3-5-ribbed and rugose or uneven  
on the back, slightly sulcate down  
the middle of the ventral face. Seed  
sulcate on the ventral face, even or  
obscurely ribbed on the back.

The specimens from the Feejee  
Islands, var.  $\beta$ , which may be  
safely joined to this species, have

longer petioles in proportion to the size of the leaves, viz. an inch or even more in length, while the blade is only 4 or 5 inches long, and from one to 2 inches wide; the ring left by the fall of the stipules is often minutely hairy within; and the drupes are mostly smaller, barely 3 lines long and scarcely or slightly retuse. — The plant from Tahiti is most probably Forster's P. Asiatica, of which I have seen two leaves only, in the herbarium of the British Museum.

This is the Stylocoryne corymbosa of Hermann's Flegge list, no. 236, but surely not of Labillardiere.

A narrow-leaved form has the leaves remarkably undulate.

Plate      Psychotria Forsteriana. Fig.  
23. A drupe, of the natural size. 24. Transverse,  
and 25, longitudinal section, magnified.



(Tab.)

Psychotria turbinata, Sp. Nov. /

P. fere glabra; stipulis caducis; foliis obovato-oblongis nunc oblongo-lanceolatis basi in petiolum longiusculum attenuatis sub-membranaceis, venis primariis 9-12-jugis; cyma terminali multiflora petiolo vix superante; fructibus turbina-  
tis vertice planis; pyrenis 2-3 ventre inferne planis. superne profunde ex-  
sculptis dorsoque ~~incrassatis~~ tuberculato-costati ~~incrassatis~~, ~~seminibus divaricantibus~~

Hab. Ovulao, Feejee Islands.  
(Also Viti-levu, Mac Gillivray, in voy. Herald.)

Shrub or tree with stout branches, glabrous, except a microscopic pubescence on the cyme, petioles, and lower side of the midrib. Stipules fallen, leaving scarcely a trace. Leaves 6 or 8 inches long, 3,  $3\frac{1}{2}$ , or rarely only 2 inches broad, obovate,

17  
oblong, or the uppermost in one specimen  
oblong-lanceolate and acute, generally  
rather obtuse, the base tapering into a pe-  
ticle of an inch or more in length,  
the texture thickish-membranaceous;  
the primary veins 9 to 12 pairs, slender,  
but rather conspicuous beneath. (By me-  
terminal, generally triple, the 3 stout  
peduncles less than an inch long, twice  
or thrice trichotomous or ~~the lower~~ verti-  
cillate; pedicels in fruit 2 lines long.  
Flowers not seen. Drupes broadly  
turbinate and generally (when dispyrenous)  
a little flattened laterally, at least in  
the ~~dry~~ dried state, ~~flat-topped~~  
with a large <sup>terminal</sup> areola, the breadth at  
the ~~top~~ flat top <sup>(3 lines)</sup> nearly equal to the  
length. Pyrene 2 or sometimes 3,  
thin below and not grooved or costate,  
except a small salient <sup>rib</sup> on the middle of  
the flat ventral face: this face is  
~~rather~~ somewhat obcordate in shape,

the upper part being deeply hollowed out on the inner face and the cup-shaped space filled with sarcocarp, while posteriorly it is abruptly enlarged and tuberculate-thickened ~~the~~ or obscurely 3-5-costate. Seed conformed to the cell; the transverse section <sup>near</sup> ~~at~~ the bottom <sup>plane</sup> flat on the ventral face, but towards the summit strongly concave and 3-5-lobed or ribbed on the back. In the vertical section the seeds diverge from each other upwards. Embryo near the base of the hard albumen. Cotyledons orbicular, thin, a little broader and shorter than the radicle.

Plate      Psychotria turbinata. Fig. 8, Drupes of the natural size. 9, Longitudinal, and 10, transverse section of a drupe. 11, Ventral and 12, ~~longitudinal~~ dorsal view of a pyrene. 13, Ventral, and 14, dorsal view of a seed. All except fig. 8 magnified.



(Tab. )

Psychotria insularum, Sp. Nov. {

P. glabra; stipulis <sup>lanceolatis acuminatis</sup> caducis; foliis ob-  
longis utrinque acutis vel acumi-  
natis longiuscule petiolatis char-  
taceo-membranaceis, venis primariis  
7-10-jugis; cyma terminali sessili  
~~3-5-partita~~, composita, radiis 3-5  
trichotomis divisionibusque divarica-  
tis gracilibus apice 3-5-floris; floribus  
graciliter pedicellatis; calycis limbo  
crateriformi ~~expanso~~ ovario aequila-  
ngo, dentibus denticulatisve 5  
acutissimis; corollae ~~brevis fida~~ fauce  
villosissima; fructibus ovoides  
brevis coronatis; pyrenis intus  
planis dorso tricotatis et molliter  
~~cristulatis~~ rugoso-muriculatis.

(Savai,

Hab. Tutuila, and Upolu, Sa-  
moan Islands. Tongatabu, Friendly  
Islands. (Also Society Islands, Midvill, and  
Heine Islands, if Saman's no. 250 belongs here.)

77  
A tall shrub, glabrous throughout, with terete branches; the internodes rather long. Leaves oblong, varying occasionally toward lanceolate or oval, acute or acuminate at both ends, 3 to 6 inches long, rather chartaceous in texture, the 7 to 10 pairs of primary veins slender but rather conspicuous; petioles from half an inch to an inch and a half in length. Stipules rather large, lanceolate, acuminate, very thin, caducous when the leaves expand. Cyme terminal, or becoming lateral by the continuation of the stem, very loose and open, generally sessile and triple or quintuple, dividing at the base into 3 or 5 slender rays (1 or 2 inches long, or rarely much shorter), and these into trichotomous divisions, which are commonly widely divergent, and bear from 3 to 5 flowers on slender pedicels of 2 or 3 lines in length. Limb

of the calyx rather conspicuous, open  
cup-shaped, much broader than the ovary  
and of about <sup>at most a line and a half long,</sup> its length, its margin  
truncate, and furnished with 5,  
either minute or more conspicuous,  
subulate or acute, often unequal  
teeth. Corolla funnel-form, gla-  
brous outside, the tube 3 lines long,  
very villous <sup>and below</sup> in the throat; the lobes  
5, short, oblong, not cucullate. An-  
thers oblong-linear, longer than the fila-  
ment. Style glabrous; stigmas 2,  
thick. <sup>red, void,</sup> Gynaeceum <sup>or</sup> ~~ovary~~, **about** 3 lines  
long, crowned with the short persis-  
tent limb of the calyx. Pyrene 2,  
plano-convex, rather strongly 3-ribbed  
on the back, and very uneven with  
soft ~~irregular~~ small projections, which wear  
away. Seed flat on the inner face, 3-  
ribbed on the back, <sup>small,</sup> Embryo at the  
base of the hard albumen.



The foliage and fruit of P. insularum considerably resembles P. elliptica, Ker; but the stipules, <sup>pedicels,</sup> the calyx, &c. are quite different.

Plate

Psychotria insularum.

Fig. 26. Fruits, of ~~the~~ natural size.  
27, Longitudinal, and 28, Transverse section  
of a drupe, enlarged.

Psychotria collina, Labill.

Psychotria collina, Labill, Serot. Austr.  
Cauld. p. 47, t. 47; Seem. in Bonpl. 1861,  
p. 257.

Hab. Feejee Island: an imperfect  
fruiting specimen, answering to Seemann's  
no. 244, which he refers to P. collina, appar-  
ently with <sup>sufficient</sup> ~~good~~ reason. I suspect that  
his no. 254, in flower, with larger leaves  
is of the same species. The fruit is globular  
and the corolla much shorter than in the preceding  
species.

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Psychotria tephrozantha, Sp. Nov.

P. stipulis caducis; foliis ovalibus utrin-  
que abrupte acutis, <sup>ut acuminatis</sup> petiolatis ramis=  
que glabris; cyma terminali pedun-  
culata effusa decomposita; pedicel-  
lis gracilibus floribus brevi flore  
brevioribus; calycis limbo subintegerrimo  
cupulato ovario turbinato ~~bre-~~  
breviore; corolla infundibulifor-  
mi extus pruinoso-canescente ~~bus~~

Var.  $\beta$ . foliis minoribus oblongis; puc-  
tibus subglobosis.

Hab. Sandalwood Bay, Nanna  
Lena, one of the Feejee Islands; in  
flower. Var.  $\beta$ . Orolan, ~~Feejee~~ one  
of the smaller Feejee Islands; in young  
fruit.

Branches slender, perhaps sarmentose,  
glabrous, as is the whole plant, except  
the corolla; the inflorescence obscurely  
pulverulent, at least when young.  
Stipules fallen. Leaves oval and

about 3 inches long, or in the fruiting  
specimens from Ovolare barely 2  
inches long and oblong, abruptly acute  
or somewhat acuminate, at both ends,  
rather chartaceous, dull green and  
of nearly the same hue both  
sides, the 7 to 9 pairs of transverse  
primary veins inconspicuous; pe-  
dicles half an inch or less in length.  
Ovary peduncled, often conspicuously  
so, decomposed and diffuse, the stan-  
der divergent branches <sup>loosely</sup> many-flowered;  
pedicels ~~slender, 1/2 to 3 lines~~ filiform,  
1 1/2 to 3 lines long. Calyx with a  
truncate ~~cupul~~ and nearly entire cu-  
pulate limb, with is ~~rather~~ shorter than  
the turbinate 2-celled ovary, and about  
the length of the narrow epigynous disk.  
Corolla 3 lines long, clavate in the bud,  
canescent or finely frosted over with  
a coating of minute white grains;  
limb 5-cleft, the lobes <sup>valvate</sup> oblong and obtuse;  
throat moderately villous. Filaments  
short; anthers oblong. Ovules solitary  
and erect from the base of the cells.  
~~Stamens~~ ~~drapes~~ (in + Style filiform,  
glabrous, entire; stigmas 2, linear-oblong,



divergent. Immature drupes (in var. B.) globular, 2 lines long; the pyrene and seed apparently flat on the face, ~~more or less~~ 3-ribbed on the back.

Mr. Macsillivray, in the voyage of the Rattlesnake collected at Cape York, Tropical Australia, specimens which <sup>seem to</sup> ~~apparently~~ belong to this species, but with a shorter and broader, less pruinose corolla, and more distinctly toothed calyx.

17  
Psychotria serpens, Linn. (Tab. )

Psychotria serpens, Linn. Mant. p. 204;  
Ob. Prodr. 4 p. 519; Hook. & Arn. Bot.  
Beech. Voy. p. 193; Benth. in Kew Jour.  
Bot. 4. p. 198.

P. scandens, Hook. & Arn. l.c.

P. parvula, Gray in Proceed. Amer. Acad.  
4. p. 45.

Grumilea polycarpa, Miq. Fl. Ind. Bat. 2, p. 295.

Tab. Ovolau and Muthuata,  
Fiji Islands.

Apparently a ~~low~~ small and  
straggling or trailing shrub, ~~with~~  
~~the aspect of P. serpens~~, glabrous;  
the slender and obscurely four-sided  
or terete branchlets very leafy. Leaves  
only an inch long, of a chartaceous  
texture, dull, of ~~the~~ nearly the same  
hue both sides, obovate, obtuse,  
the base abruptly ~~contra~~ narrowed into  
a petiole of about a line and a half  
in length. Stipules wholly fallen.  
Cyme terminal, short-peduncled, small,

loosely many-flowered, Calyx only slightly produced beyond the globose-urceolate ovary, the ~~short~~ limb with 5 <sup>very</sup> short and acute teeth, Corolla not seen. Drupes  $2\frac{1}{2}$  lines long, globose, red? Pyrena 2, almost hemispherical, thin crustaceous, nearly flat on the inner face, <sup>dorsally</sup> marked with 3 <sup>or 2</sup> ~~very~~ strong and very obtuse ribs, separated by narrow intervals, seed slightly concave on the inner face, strongly 2-3-ribbed on the back.

Having at length been able to make the requisite comparison, I cannot doubt that these Feijee specimens (although the corolla is unknown) are identical with the ~~the~~ species of the Coast of China, and the Lov Choo Island <sup>which also inhabits Sumatra.</sup> But the inflorescence wants the minute glaucous pruinosity, and the leaves are rather thinner. The albumen is not ruminated.

Plate Psychotria serpens. Fig. 32. Fruit, &c. of the natural size. 33. Transverse section of a drupe, magnified. 34. A pyrena, and 35. a seed, dorsal views, magnified.



gracilis  
Psychotria leptophylla Sp. Nov.

P. glaberrima; ramis gracillimis;  
stipulis quadrisubulatis deciduis; foliis  
lanceolatis membranaceis attenuato-  
acuminatis basi in petiolum an-  
gustatis; cyma parva terminali  
pluriflora breviter pedunculata;  
calycis limbo expanso crateriformi  
ovario subaequilongo 5-dentato; Corolla  
brevis 5-fida intus glabra; fila-  
mentis gracilibus antheris longior-  
ibus.

Hab. Nanna-levu, one of the  
Fuejee Islands

Apparently a shrub, very smooth  
and glabrous, with very slender terete  
branchlets. Stipules 4, sitaceous-sub-  
ulate, about a line and a half long,  
barely united into a ring at the base,

102  
hardly deciduous. Leaves membra-  
ceous, <sup>and of the same hue both sides, rather shining</sup> yellowish-green, lanceolate with  
a long and gradual acumination, 2  
or 3 inches long, a half or a quarter  
of an inch wide in the middle, taper-  
ing into a slender petiole of 2 or 3 lines  
in length; the veins transverse, very nu-  
merous, inconspicuous. Peduncle termi-  
nal, half an inch or less in length, bear-  
ing a small and corymbose, rather many-  
flowered cyme. Pedicels short. Flowers  
2 lines long. Limb of the calyx dilated-  
cup-shaped, rather strongly 5-toothed,  
much broader and about the length of the  
obovate ovary. Corolla short, ~~from the~~  
<sup>deeply</sup> 5-cleft, entirely glabrous inside; the  
lobes oblong, the apex a little thickened  
and inflexed. Filaments slender,  
inserted rather low down, considerably  
longer than the oblong-linear anthers.  
Style rather short: Stigmas 2, obtuse.  
Fruit unknown.

Psychotria calycosa, Sp. Nov.

P. ? glabra; stipulis caducis; foliis anguste oblongis seu oblongo-lanceolatis subacuminatis basi in petiolum brevem attenuatis; cyma terminali foliis breviora pedunculata confertiflora; floribus pedicellatis; calycis limbo amplissimo foliaceo e basi infundibuliformi expanso 5-lobato; corolla tubuloso-infundibuliformi breviter 5-fido, lobis apice saecatis extus pistillis intus barbatis.

Hab. Ovolau, one of the Feejee Islands. (A single specimen also collected by Milne, in voy. Herald.)

Shrub with very leafy and rather slender branches, ~~slender~~ glabrous. Stipules lanceolate or subulate? Caducous. Leaves of a rather firm texture, narrowly oblong or oblong-lanceolate, obtusely acuminate, 3 or 4 inches long, narrowed at the base into petiole of only 3 or 4 lines in length, dull, of the same hue



115  
both sides, the veins not prominent.  
Peduncle terminal, an inch or less  
in length, slender, bearing a small  
cyme of about 3 primary branches, each  
fasciculately ~~many~~<sup>several</sup>-flowered. Pedicels  
2 or 3 lines long, filiform, naked.  
Calyx with a turbinate adherent tube of  
scarcely a line in length, continued into ~~a~~  
a dilated infundibuliform and explanate,  
foliaceous, ~~and somewhat irreg~~<sup>often</sup> 5-lobed  
limb of about 2 lines in length; the  
lobes ovate, <sup>often</sup> more or less unequal.  
Corolla tubular, funnelform, ~~5 or nearly 6~~  
lines long, glabrous except at the sum-  
mit; the 5 ~~short~~ oblong lobes, valvate  
in activation, conspicuously saccate-  
hooded at the tip, minutely and  
~~sparsely~~ scabrous-hirsute outside, minutely  
and densely bearded inside for the  
whole length, the throat ~~more densely~~  
villos. Stamens inserted in the  
throat of the corolla; anthers oblong-lin-  
ear, longer than the filaments. Style  
filiform; stigmas 2, short and thick.  
Ovary 2-celled, with a solitary ovule  
erect from the base of each cell. Fruit  
not seen.

*P. Nitiensis*, Seem, Cat. in Bouplandia, 1861, p. 286,  
is a variety of this, with the calyx less lobed.

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(Tab. )

*Psychotria* <sup>macrocalyx,</sup> ~~calycantha~~, Sp. Nov. }

*P. glaberrima* } ramis gracilibus folio-  
 sissimis; stipulis ovatis mucronatis  
 caducis; foliis lanceolatis seu  
 oblongo-lanceolatis longe acuminatis  
 chartaceis basi in petiolum at-  
 tenuatis; pedunculis <sup>1-3</sup> terminalibus  
~~filiformibus~~ 1-5-floris pedicellisque  
 filiformibus; calycis limbo tubuloso  
 angusto breviter 5-dentato ~~perispermato~~  
~~demum fissis~~ drupa ovoidea sub-  
 aequilongo; pyrenis compressis intus  
 planis dorso uni vel subtricarina-  
 tis.

Hab. Sandalwood Bay, Nannu-levu,  
 one of the Feejee Islands. Also Tonga-  
 taba.

Shrub with slender and very leafy  
 branches, glabrous. Stipules small,

165  
Scaly, ovate, mucronate, puberulent  
externally, caducous. Leaves rather  
chartaceous in texture, lanceolate, or  
sometimes oblong-lanceolate, usually  
very gradually acuminate, and also  
tapering at the base into a short  
petiole, of the same hue both  
sides, inconspicuously veiny,  $2\frac{1}{2}$  to 4  
inches long, half or three fourths of  
an inch wide. Peduncles from one  
to 3 from the summit of the branches,  
filiform, an inch or an inch and a  
half in length, bearing a solitary  
flower, or commonly from 3 to 5 flowers  
at the summit; the lateral ones on  
filiform pedicels 4 or 5 lines in length. A  
young flower bud exhibited a clavate  
ovary, surmounted by a ~~free~~ prolonga-  
tion of the calyx into a free tube  
of double the length of the ovary, of her-  
baceous texture, and (often unequally)  
5 toothed at the summit. The ~~only~~  
corolla of this bud, - the only one ex-



(still undeveloped and  
anined,— was yet much shorter than  
the calyx, glabrous, except the tips which  
were saccate or produced as in *P. calycosa*,  
but less conspicuously, slightly bearded  
inside. Style 2-cleft at the apex.  
The specimens are mainly in fruit,  
Drupe ovoid, 4 lines long, crowned with  
the tubular or somewhat campanulate  
limb of the calyx, which is often 2 or  
3 lines in length, frequently split down  
on one side. Pyrene 2, plano-convex,  
oval or oblong, cartilaginous, strongly  
carinate ~~one-ribbed~~ with a salient  
dorsal rib, and sometimes with two  
smaller ribs. Seed conformed to the  
cell, strongly one-ribbed on the back,  
flat on the inner face. Embryo  
small in hard albumen.

Plate      Psychotria macrocalyx, Fig.  
29. A branchlet in fruit, of the natural size.  
30. Longitudinal, and 31. Transverse section  
of a drupe, magnified.

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Psychotria filipes, Sp. Nov.

P. glabra; stipulis caducis; foliis lanceolato- seu obovato-oblongis acuminatis basi paullo angustata saepius subcordatis longe petiolatis; pedunculis terminalibus 2-5 filiformibus folia subaequantibus cymam effusam plurifloram gerentibus, radiis 3-4 pedicellisque gracilibus; calycis limbo crateriformi 4-dentato ovario brevioribus; corolla brevi 4-fida fauce fere nuda; fructu immaturo ovato.

Hab. Feejee Islands.

A glabrous shrub, with rather slender branches, the leaves crowded at the summit of the flowering ones. Stipules apparently ovate, lanceolate, acuminate, very caducous. Leaves mem-

189  
~~nearly~~ <sup>from sides</sup> green and nearly of the same hue  
bracteous, 3 or 4 inches long, one to  
nearly 2 inches wide near the middle,  
rather strongly acuminate, gradually  
and moderately narrowed towards the base, which however,  
is generally although slightly cordate,  
but sometimes only retuse; the primary  
veins 9 or 10 pairs, not inconspicuous!  
petioles slender, from three fourths of an  
inch to an inch and a half long. Peduncles  
very long and slender, naked, from 2 to 5 in  
a fascicle at the summit of the branches,  
about 2 inches long to their division into  
3 or 4 ~~radic~~ filiform radii about half an  
inch long, which are umbellately or cymose-  
ly 5-9-flowered; pedicels 1 to 3 lines long.  
Flowers very small, a line and a half long.  
Ovary turbinate or at length urceolate,  
with a single ovule erect from the base of  
each cell, crowned with the conspic-  
uous, but not very large, open cup-shaped,  
thin and rather scarious, 4-toothed limb  
of the calyx. Corolla short, 4-clift; the lobes ob-  
long, plane, glabrous except a slight villosity at the  
insertion <sup>the</sup> of each filament. These are inserted pretty



low down, and are slender, and twice  
the length of the anthers. Immature  
fruit ovate, small. Seeds, etc. not  
seen.

No. 253 of Seemanni's Freeje col-  
lection <sup>closely</sup> ~~much~~ resembles our speci-  
men, except that the limb of the  
calyx is truncate and entire. Its  
fruit is nearly that of P. platy-  
coeca. It is probably a new  
species, nearly related to P. filipes.

(Tab. )

Psychotria apodantha, sp. nov.

P. stipulis longe setaceo-acuminatis  
caducis; foliis lanceolatis sensim  
acuminatis basi acutis vel obtusis  
membranaceis glabris, petiolo pri-  
mum ferrugineo-puberulo; fructibus  
(1-3?) terminalibus subsessilibus  
ovalibus <sup>oblongis</sup> ~~obovatis~~ calycis limbo cupuliformi  
leviter 5-dentato coronato; pyrenis  
seminibusque intus planis dorso  
1-3-~~costatis~~ costatis.

Tab. Samoan or Navigator's  
Islands.

There is only a fruiting specimen  
of this ~~apparently~~ very distinct species.  
It is apparently a shrub, glabrous or  
nearly so, except a slight ferrugineous  
pubescence on the petioles and midrib  
when young. The stipules seem to be

lanceolate with a long setaceous ac-  
 mination, scarious, and very caducous.  
 Leaves membranaceous, 3 or 4 inches long,  
 about two thirds of an inch wide, lan-  
 ceolate, with a gradual acumination,  
 either acute or obtuse at the base,  
 the primary veins 14 to 16 pairs, slender,  
 not very conspicuous. Flowers not  
 seen. Drupes solitary or 2 or 3  
 together at the summit of the branches,  
 almost sessile, oblong-ovoid, half an  
 inch long, inclusive of the rather conspic-  
 uous persistent crown, which is a line or  
 more in length, cup-shaped, and more or  
 less 5-toothed. Pyrene 2, thin-crustace-  
 ous, flat on the ventral face, obtusely  
 and strongly 1-3-ribbed on the back,  
 seed conformed to the cell, flat on the  
~~inner~~ ventral face, and with one or 3  
 ribs on the back.

Plate

Psychotria apodantha.

Fig. 19, Leaves and a drupe, of the natural  
 size. 20, Enlarged transverse section of a drupe.  
 21, Ventral, and 22, Dorsal view of a pyrene,  
 magnified.



Psychotria hypargyrea, Sp. Nov. (Tab.)

P. glabra; stipulis bifidis caducis; foliis obovato-oblongis seu oblongo-lanceolatis acuminatis basi in petiolum brevem attenuatis chartaceis. supra viridibus sublus argentato-pallidis; pedunculis 1-3 terminalibus apice 3-5-floris; floribus brevissime pedicellatis; calycis limbo parvo 5-dentato; corolla infundibuliformi breviter 5-fida intus glabra; filamentis brevissimis; fructibus globosis (in siccis acute costatis) ~~apice~~ calvis; pyrenis cartilagineis tenuibus ventre planis leviter obcordatis margine acutissimis dorso medio 1-3-cristato-alatis; semine triptero.

Tab. Orolan, one of the Looe Islands.

Of this there are one or two specimens with flower-buds and rather small leaves (the habitat not recorded), and another (from Orolan)



with larger leaves and mature fruit. The whitish somewhat silvery sheen of the lower face of the leaves is the same on both and well marks the species. It is a shrub or tree, wholly glabrous. Stipules 2 intrafoliaceous, short, ovate or oblong, 2-cleft, somewhat ciliate, very caducous. Leaves chartaceous in texture, varying from obovate-oblong to oblong-lanceolate, more or less abruptly acuminate, 2 to 5 inches long, tapering at the base into a petiole 3 or 4 lines in length; primary veins 9 to 12 pairs, slender, but manifest; the upper surface bright green; the lower ~~side~~ <sup>pale</sup> ~~pale~~ <sup>silvery</sup> as if with very <sup>fine</sup> <sup>and</sup> <sup>close</sup> <sup>scurf</sup> <sup>of</sup> <sup>flowers</sup> <sup>small</sup> <sup>limb</sup> <sup>of</sup> <sup>the</sup> <sup>calyx</sup> <sup>shorter</sup> <sup>than</sup> <sup>the</sup> <sup>turbinate</sup> <sup>ovary</sup> <sup>5-toothed</sup>. Corolla tubular-funneliform, 3 or 4 lines long, with 5 short oblong lobes, valvate in aestivation, glabrous both within and without. Filaments Anthers almost sessile in the throat, linear-oblong. Stigma 2-lobed. Ovary 2-celled, with a single ovule erect from the base of each cell. Drupes globose, with a rather depressed naked summit, in the dried

state sharply costate, the flattish summit naked, or with only obscure indications ~~vestiges~~ of a calyx-limb. Pyrene 2, thin, cartilaginous, appearing 3-winged and with dorsal wing ~~itself~~ or sharp ridge itself often two-winged or three-winged; ventral face flat, nearly 3 lines in length and breadth, somewhat obcordately-notched ~~at~~ at the summit, the ~~slightly convex dorsal face~~ edges very narrow and acute; the dorsal face slightly convex, and in the centre bearing either a narrow and simple very sharp wing, a line in breadth, or else it is ~~thicker~~ thicker and surmounted by 2 or even 3 narrower wings or thin crests. Seed ~~not~~ conformed to the cell, thin and flat, with a salient strong ridge or wing on the back.

*Hypargyrea*. Fig.  
Plate *Psychotria ~~pluriflora~~*  
1. A branch in fruit, and 2. Branchlet with flower-buds of the natural size. 3. Vertical section of a flower-bud. 4. Transverse section of a drupe. 5. Transverse section of a pair of pyrene. 6. Dorsal, and 7. Ventral view of a pyrene. The details magnified.



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*Psychotria* (*Piptilerna*) *cordata*, Sp. Nov. (Tab.)

*P.* glabra; stipulis ovatis? caducis; foliis  
oblongo-sen lanceolato-ovatis promis-  
acuminatis basi cordatis longe  
petiolatis; capitulo axile sessili  
plurifloro bracteis squamaceis  
obovato-rotundis circiter 6 caducis involu-  
crato; calycis limbo brevi truncato;  
corolla <sup>5-7-mera</sup> ~~tubulosa~~ ~~fauce~~ ~~cune~~ ~~fila-~~  
~~mentis brevissimis villosa barbata~~; pue-  
libus elongato-pyramidalis; pyrenis  
<sup>medio</sup> dorso, alato-cristatis marginibus  
infra medium angulato-productis,

Hab. Mountains of Muthuata, one  
of the Feejee Islands, at an elevation  
of 2000 feet.

Shrub 10 feet high, glabrous,  
stipules fallen, but probably like the  
bracts. Leaves membranaceous, 2 to 3½



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inches long, 9 to 18 times broad, oblong-  
ovate or ovate-lanceolate with a long  
acumination and a cordate base, the  
veins rather conspicuous beneath; petioles  
an inch or more, or sometimes less, in length,  
<sup>slender</sup> the upper side with a narrow and more  
or less bearded channel. Flowers rather  
numerous in a <sup>closely</sup> sessile terminal head, in  
the bud enveloped in about 3 pairs of  
large, <sup>round-</sup>obovate, concave, scarious and  
chestnut-colored <sup>involucral</sup> stipular bracts, making  
a globose common flower-bud, deciduous  
as the flowers expand. These are sessile,  
and apparently ~~not~~ bracteolate, glabrous.  
Calyx with a ~~short~~ truncate almost entire  
limb much shorter than the turbinate  
ovary. Corolla "white", tubular-funnel-  
form. 4 or 5 times long, with <sup>the</sup> oblong  
short lobes, valvate in aestivation. The  
materials for the investigation of the blossoms  
are very imperfect. Upon one  
specimen there are one or two expanded  
~~flower~~ corollas having 5 or 7 lobes, and  
bearing as many almost sessile ~~linear~~

oblong-linear anthers in the throat,  
~~which~~ with a villous ring, the extremely  
short <sup>filaments</sup> ~~anthers~~ also bearded. But <sup>young</sup> flower-  
buds from another specimen have  
the throat and the more manifest fila-  
ments glabrous. There is probably a dia-  
cious dimorphism in this as in many  
other genera of Rubiaceae. Style  
filiform, cleft at the summit into 2,  
or sometimes 3, slender lobes or stigmas.  
Ovary with a solitary ovule erect from  
the base of each cell. Immature  
drupe 4 lines long, narrowly pyramidal  
in the dried state, tipped with ~~the con-~~  
~~spic~~ a protuberant epigynous disk  
~~surrounded by~~ <sup>obscure</sup> ~~the~~ <sup>obscure</sup> limb of the calyx.  
Pyrene 2, ovate-lanceolate in outline, ~~of~~  
~~a~~ thin, of a cartilaginous texture, flat  
on the inner face and with the margins  
abruptly angulate. Dilated below the middle,  
the back bearing a conspicuous median  
wing or strong and sharp crest which

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varies towards the summit. Seed flat  
on the inner face, strongly keeled on  
the back. Embryo small, in the  
lower part of the hard albumen.

The present and the two following spe-  
cies, and probably Plumier's Cephaelis  
stipulacea, compose a group which  
might technically be referred to to  
Cephaelis; but as the involucre  
bracts are caducous, no bractlets ap-  
pear among the flowers, and the fruit  
is like that of some other Oceanic  
Psychotria, I think ~~that~~<sup>it</sup> should be  
regarded as a section of the latter  
genus, ranking between Bentharn's  
section Notopleura and Cephaelis, it-  
self hardly to be generically distinguished  
from Psychotria. The name of



The group (from  $\pi\epsilon\pi\tau\omega$  to fall off, and  
 $\epsilon\iota\lambda\omicron\upsilon\alpha$ , involucre), alludes to the  
deciduous involucre.\*

Plate A. Psychotria cordata; <sup>bud,</sup> in flower  
and fruit. Fig. 1. A flower. 2. Corolla laid  
open. 3, 4. Stamens. 5. Pistil. 6. Vertical  
section of the ovary. 7. Vertical section  
of a drupe. 8. Transverse section of a  
drupe. The details all magnified.

~~\* § 2~~

\* Sect. Piptilerna. Stipulae squa-  
maceae, caducissimae. Flores sessiles, capite<sup>terminali</sup>latis,  
ebracteolati; capitulo<sup>terminali</sup> primum bracteis squama-  
ceis caducis involucreto. Pyrena compresso-plana,  
costa ~~una~~ dorsali una in cristam alamve  
producta, marginibus ~~inferis~~ subulato-dilatatis. Semen  
quasi tripterum.

Sp. Nov. (Tab.)

Psychotria (Piptilena) Pickeringii.

P. glabra; stipulis caducis; foliis oblongo-  
lanceolatis seu ovato-oblongis promissa  
acuminatis basi angustata subacu-  
tis obtusisve; capitulo arcte sessili  
plurifloro bracteis squamaceis cadu-  
cis involucreto; calycis limbo brevissi-  
mo truncato; corolla tubulosa 4-6-  
mera; fructibus <sup>obovatis</sup> ~~obovato~~ pyrami-  
data obtusis basi quadrangulatis;  
pyrenis dorso cristatis et <sup>inferne</sup> marginibus  
cristatis.

Hab. Orolan, and Sandalwood Bay,  
Vanua-levu, Feejee Islands.

A glabrous shrub, with slender spread-  
ing branches. Stipules fallen. Leaves  
membranaceous, broadly lanceolate or the  
wider ones ovate-oblong, 2 to 4½ inches  
long, 9 to 15 lines wide, tapering upwards

27.  
into a conspicuous acumination, and  
below into a rather acute or barely  
obtuse base; veins evident; petiole slender,  
3 to 6 lines long. Flowers several,  
sessile in a closely sessile terminal  
cluster or capitulum, which in the  
bud is involucre with one or more  
pairs of orbicular and concave, mucron-  
ate, <sup>caducous,</sup> scaly, stipular bracts. Limb of  
the calyx very short, truncate, entire.  
Corolla tubular, nearly half an inch  
long, 4-6 lobed; the lobes short, ovate,  
valvate in aestivation; the throat, & gla-  
brous. Filaments in the <sup>flowers examined</sup> ~~specimens~~,  
inserted below the throat, filiform,  
glabrous, twice the length of the linear-  
oblong anthers. Style filiform, 2-cleft  
at the summit. Drupe 3 to 4 or 5  
lines long, oblong-obovate in outline, very  
obtuse, the lower part 4-angled or  
obpyramidal even when soaked. Pyrene  
2, ovate or round-ovate in circumscrip-  
tion, flat on the inner face and nearly



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so on the back, the middle of which  
bears a strong, salient, obtuse or sharp,  
crest or wing, while the margins  
are wing-like, sometimes for nearly the  
whole length, but usually only below  
the ~~mid~~ middle, the upper part ab-  
solutely contracted. Seed conformed to the  
cell, ~~below~~ appearing as if 3-winged, at  
least below. Embryo <sup>less</sup> scarcely half the  
length of the <sup>with</sup> hard albumen.

(Fig. 9)

Plate. 13. Psychotria Pickeringii.  
foliage and fruit, natural size. 10, Trans-  
verse section of a drupe. 11, Longitudinal  
section of a drupe. 12, Ventral, and 13,  
Dorsal view of a pyrene. 14, Ventral, and  
15, Dorsal view of a seed. 16, Embryo. The  
details variously magnified.

(Tab.)

Psychotria (Piptilena) platycoeca, sp. nov.

P. glaberrima; stipulis caducis; foliis oblongis utrinque acutis; pedunculis terminalibus demumve lateraliibus petiolum adaequantibus glomerulos 1-3 paucifloros bracteis caducis primum involu-  
cratos gerentibus; fructibus ovato-tetraquetris; pyrenis dorso et marginibus praesertim inferne acute cristatis.

Hab. Ovolau, one of the Looe Islands.

This differs from the foregoing species in the broader and slightly if at all acuminate leaves (of a firmer texture and with more conspicuous veins, 3 or 4 inches long and an inch or an inch and a half wide, tapering at the base into <sup>the</sup> ~~a~~ petiole), and by the pedunculate

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inflorescence. The peduncles are half  
an inch ~~long~~ long, solitary or 2 or 3  
together, <sup>usually</sup> terminal or becoming lateral,  
compressed, dividing at the summit into  
3 partial peduncles of about 3 lines in length,  
<sup>each</sup> bearing a few ~~flowers~~ subsessile flowers, the  
~~cluster~~ <sup>small</sup> whole inflorescence and the ~~three~~  
separate clusters in the ~~bud enclosed~~  
enclosed in the bud by ~~thin~~ <sup>a few</sup>  
thin and scarious bracts; these are  
only 2 or 3 lines long and are early  
caducous. Limb of the calyx cupulate,  
truncate and entire, <sup>as long as the prominent epigynous disk</sup>, fully half the  
length of the turbinate ovary. The  
developed corolla not seen. Ovary  
2-celled, with a single ovule erect from  
the base of each cell. Drupe ovate and  
somewhat compressed, with 4 ~~salient~~ angles  
in the dried state. Pyrene 3 lines  
long and of nearly the same width  
at the base, somewhat deltoid-ovate  
in ~~out~~ circumscription, ~~more~~ <sup>rather</sup> very flat,  
the margins ~~gradually~~ dilated or wing-



-like downwards, the back bearing a thin and sharp wing or crest about a line in depth.

Plate      C.      Psychotria  
platycoeca. Fig. 17. Foliage and fruit, natural size. 18. Longitudinal, and 19. Transverse section of a drupe. 20. Dorsal view of a pyrene. The anthers magnified.

There are fragments of three or four more, apparently undescribed species of Psychotria in the collection, from the Feejee and Samoan Islands; but they are too imperfect to be safely characterized.

~~In Kuny's collection from Oahu is an undescribed species, probably of Psychotria, but the materials are incomplete.~~

\* \* Philippenses et Australica.

Psychotria elliptica, Ker.

Psychotria elliptica, Ker. Bot. Vag. 7,  
607; Db. Prodr. 4, p. 509; Benth. in  
Kew. Jour. Bot. 4, p. 198; non Willd., nec  
P. <sup>N. B. K.</sup> Reevesii, Wall. ~~Cat.~~ in Roxb. Fl.  
Ind. 2, p. 164; Db. l. c. p. 519.

P. Manillensis, Barth. in Db. l. c. p. 522,  
ex char.

Gnomicia Reevesii, Hook. & Arn. Bot.  
Bech. Voy. p. 193 & 265.

Hab. Luzon; in the mountains near  
Baños, ~~not~~ far from Manila.

Clearly the same as the plant of  
Hong Kong, Lov Choo, <sup>upper</sup> and Indian  
species. The specimen is in fruit. When  
the albumen is strongly grooved between the  
ribs, as in the present specimen, the rumination  
is ~~obscure~~ <sup>the</sup> more obscure. It varies so much  
in this species ~~as~~ to lose all value as a  
generic mark.

Psychotria loniceroides, Sieb.

Hab. New South Wales

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\*\*\* Brasilienses.

Psychotria alba, Ruiz & Pav.

Psychotria alba, Ruiz & Pav. Fl. Per.  
2. p. 58, t. 105; Ob. Prodr. 4. p. 508;  
Schlecht. in Linnaea, 28. p. 504

Hab. Brazil, near Rio Janeiro;  
the var. tonsa. ~~There is Feejee Islands?~~

There is in the ~~Oceanic~~ Polynesian collection a small specimen, with mostly unexpanded flower-buds, recorded as from Nannak-leva, one of the Feejee Islands, which in all respects accords with ~~these~~ the P. alba from Brazil. It equally has slender filaments longer than the anthers and the style ~~2-cleft at~~ more ~~two-~~ two-cleft than is usual. It ~~appears~~ seems <sup>more</sup> ~~as~~ probable that the specimen may have been transposed, <sup>than</sup> ~~as~~ that this American species should occur <sup>in</sup> ~~from~~ a distant group of South Sea Islands.

2. Psychotria leiocarpa, Cham. & Schlecht.

Psychotria leiocarpa, Cham. & Schlecht. in  
Linnaea, 4, p. 22; Ob. l. c.; Schlecht.  
l. c. (Mart. Herb. Bras. no. 112;

Hab. Brazil, in the Organ Mountains,



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3. Psychotria apocynifolia, sp. nov.

P. glaberrima; foliis oblongis seu lanceolato-oblongis utrinque acutis vel acuminate breviter petiolatis membranaceis concoloribus, venis primariis tenuibus angulo fere recto patentibus prominulis; stipulis brevissimis triangulatis, summis integris, ceteris bipartitis; cyma terminali pedunculata laxiflora, foliis brevioribus; bracteis minimis subulatis; calyce obtuse quinque dentato; corolla infundibuliformi extus scabriuscula intus fauce tantum pilosa; stylo hirtello.

Hab. Brazil, near Rio Janeiro.

Very smooth and glabrous throughout. Branchlets nearly terete. Leaves in shape and appearance not unlike those of some forms of Apocynum cannabinum, but of nearly the same

membranaceous)

Bright green color both sides, (2 1/2 to 3 1/2 inches long, an inch or rather more in width, narrowly oblong or lance-oblong, acuminate, acute at the base, on a petiole of one or two lines in length, the primary veins 10 or 12 pairs, slender but rather conspicuous, transverse, and slightly curved upwards; the reticulated veinlets inconspicuous. Stipules shorter than the petioles; the uppermost triangular and entire between the petioles, the lower subulate-triangular and two on each side, deciduous. ~~Byrne terminal, many-flowered,~~ shorter than the uppermost leaves; the peduncle (half an inch long), and ~~the~~ <sup>its</sup> trichotomous or verticillate branches slender, slightly compressed, the alar flowers sessile; the lateral pedicelled. Flowers about 3 lines long. Calyx short; the cupulate limb obtusely 5-toothed. Corolla funnel-form, a little purplish outside; the oblong lobes more than half

the length of the tube, inappendiculate, the throat villous at the insertion of the stamens but not elsewhere. Filaments shorter than the oblong-linear anthers. Style beset for nearly its whole length with very short hairs, two-cleft at the apex; the stigmas dilated, ~~obscure~~ thickish, roundish, and somewhat 3-lobed. Ovary 2-celled, with a solitary ovule erect from the base of each cell. Fruit unknown.

If I mistake not, this is the same as ~~Gardner's~~ (no. 5492 of Gardner's Brazilian collection, which, however, I do not possess for present comparison. ~~But~~ It resembles, but is not identical with a specimen of Gardner's from the Organ Mountains, communicated by the late Mr. Fielding, without a number, and which has ~~rather narrow~~ an almost entire calyx <sup>and</sup> a rather narrower corolla, the lobes of which are ~~short~~ appendaged or



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saccate, <sup>behind</sup> ~~on the back~~ just below the apex, and the style is glabrous, the stigmas slender. Neither of these can well be the *P. nitidula* of Chamisso and Schlechtendal, ~~although~~ although evidently ~~related~~ related to it.

4. *Psychotria pallens*, Gardn.

*Psychotria pallens*, Gardn. in <sup>(Hook.)</sup> Lond. Jour. Bot. 4, p. 108.

Hab. Brazil, in the Organ Mountains.

5. *Psychotria stachyoides*, Benth.

*Psychotria stachyoides*, Benth. Pl. Negrell. in Linnaea, 23, p. 464.

Hab. Brazil, in the Organ Mountains.

b. Psychotria hancorniaefolia, Benth. l.c.

Hab. Brazil, in the Organ Mountains,  
and near Rio Janeiro.

There remain three or four specimens  
~~of different~~ apparently of as many  
species of Psychotria, which are  
probably ~~undescri~~ unpublished if they  
really belong to this genus; but the  
fruit of all of them is unknown, and  
the materials are too imperfect for  
safe and useful description.

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Palicourea, Aublet.

1. Palicourea Marcgravii, St. Hil.

Palicourea Marcgravii, St. Hil. Pl. Rem.  
Mss. p. 281, t. 22; Db. Prodr. 4, p. 525.

Hab. Organ Mountains, Brazil, near  
Rio Janeiro. (Stipules quadrifid.)

Faramia, A. Rich.

1. Faramia stipulacea, Db.

Faramia stipulacea, Db. Prodr. 4, p. 497.  
Tetramerium stipulaceum, Cham. & Schlecht.  
in Linnaea, 4, p. 31.

Hab. Brazil, in the Organ Mountains,  
near Rio Janeiro.



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2. Faramea caudata, Gardn.

Faramea caudata, Gardn. in Hook. Lond.  
Jour. Bot. 4. p. 108; Benth. in Lin-  
nea, 23, p. 454.

Hab. Brazil, in the Organ Mountains.

3. Faramea colorata, Benth. l.c.

Hab. Brazil, in the vicinity of Rio Janeiro.

4. Faramea nemoralis, Mart.

Faramea nemoralis, Mart. Herb. Fl. Bras.  
no. 610; Benth. l.c. p. 451.

Hab. Organ Mountains, Brazil.

5. Favamea contracta, Walp.

Favamea contracta, Walp. Nel. Meyen.  
p. 351; Benth. l.c. p. 448.

Stat. Organ Mountains, Brazil.

There are <sup>(specimens)</sup> fragments of another  
Favamea from the Organ Mountains,  
with small sessile leaves, ~~and~~ long-  
aristate stipules, and small calyx-  
teeth; but the materials are too incom-  
plete for ~~descriptive~~ determination  
or description.

b. Favamea sessiliflora, Rehl.

Stat. Vicinity of Rio Janeiro, Brazil.

Rudgea, Salisb.

1. Rudgea lanceolata, Benth.

Rudgea lanceolata, Benth. in Linnaea,  
23, p. 455.

Coffea lanceolata, Cham. & Schlecht.  
in Linnaea, 9, p. 232.

Psychotria sessilis, Vell. Fl. Flum.  
2, t. 26.

Hab. Brazil, in the Organ Mountains,  
near Rio Janeiro.

2. Rudgea nodosa, Benth.

Rudgea nodosa, Benth. in Linnaea, 23,  
p. 457.

Coffea nodosa, Cham. & Schlecht. in  
Linnaea, 9, p. 233.

Hab. Brazil, in the vicinity of Rio Janeiro.



(A fragment, with young fruit.)

3. Rudgea macrophylla, Benth. <sup>(l.c.)</sup>

Hab. Brazil, in the Organ Mountains,  
near Rio Janeiro. (Flowers fallen.  
Leaves a foot and a half long.)

A fragment of another species occurs  
in the <sup>(Brazilian)</sup> collection, possibly a form of  
R. reticulata, Benth.; but insufficient  
for determination.

Uncaria, Schreb.1. Uncaria Gambir, Roxb.

Hab. Singapore. (Furnishes one of the sorts of Catechu in commerce.)

Nauclaea, Linn.1. Nauclaea calycina, Bartl. in DC.

Nauclaea orientalis, Forst. Prodr. p. 15?  
non Linn.

N. rotundifolia, Guill. Reph.  
Jart. p. 50? vix Bartl.?

Hab. Tahiti, Society Islands.  
Savai and Manua, Samoan Islands.

The specimens are much too imperfect for proper determination, and also variable in the shape of the leaves; but they can hardly belong to N. rotundifolia, Bartl. to which

Grillenium ~~referred~~ Doubtfully re-  
ferred (Forster's plant). At least  
the young flowers of a specimen  
collected by Moerenhout have  
the slender, clavate calyx-lobes  
of DeCandolle's section Pentacoryna.

Manettia, Antis.

1. Manettia fimbriata, Cham. & Schlecht.
2. Manettia multiflora, Cham.

Ital. Near Rio Janeiro a single  
specimen of each of these species was  
collected.



Alseis, Schott.1. Alseis Miersii, Benth. ined.

Hab. Organ Mountains, near Rio Janeiro, Brazil.

A solitary specimen, in fruit. Compared with Endlicher's figure of the original species <sup>(in flower)</sup>, it appears to differ only in the copious soft pubescence.

Noigtia, Klotzsch.1. Noigtia australis, Klotzsch.

Noigtia australis, Klotzsch "in Stagne, Anzeig. 14, t. 15, adn."; Walp. ~~Reper~~ Reperit. 6, p. 68.

Exostemma australe, St. Hil. Pl. Us. Bras. 1, t. 3; St. Prodr. 4, p. 361.

Hab. Brazil, near Rio Janeiro: also foliage, apparently of the same but glabrous and shining above, from the Organ Mountains.

Coutarea, Publ.

1. Coutarea speciosa, Publ.

Hab. Rio Janeiro, Brazil.

De Candolle and Endlicher omit to state (as Publet and other early authors do) that the corolla is curved or unequally ventricose in the bud. Endlicher, so far as I know, is the first to mention the aestivation of the corolla, and he gives it incorrectly, viz. as imbricate; hence <sup>Rank's</sup> ~~includes~~ the genus among those with valvate or modified valvate aestivation; whereas ~~the aestivation~~ it is truly imbricative, although the tube is somewhat flared. Moreover, in C. Mexicana, R. & C. (if to this belongs Boutier's no. 225 from Rimassan), the flowers are (at least sometimes) pentamerous.

\* Bikkia grandiflora, Kuhn., or  
B. australis, DC., or more properly,  
B. tetrandra (Portlandia tetrandra,  
Forst.) appears not to have been col-  
lected in the Expedition, but Prof.  
Harvey obtained fine specimens of  
this ~~hard woody~~ <sup>shrubby</sup> ~~plant~~ <sup>various</sup> at the Friendly  
Island. As the aestivation of the cor-  
olla has not been recorded, I may  
state that it is valvular, as in  
Portlandia, but strongly redupli-  
cate, so that the short limb of the  
corolla in the bud is ~~strong~~ cruci-  
ately ~~four~~ <sup>angled or</sup> winged. The stigma is  
bilamellar, the lobes short, oblong,  
and thickish. Ovules oblong, hori-  
zontal. Immature seeds with the  
testa conformed to the nucleus.



link.  
Erilla  
9/12  
Auyar-crakent

Badusa, N. Gen.

Calyx tubo clavato; limbo brevi  
 cupulato 5-dentato persistente.  
Corolla hyprocraterimorpha, <sup>glabra,</sup> ~~5-fida~~; <sup>5-fida</sup>;  
 limbo tubum adaequante, lobis  
 lineari-oblongis aestivatione contor=  
 to-imbricatis (uno exteriori), explica=  
 tis patenti-recurvis. Stamina 5;  
exserta: filamenta filiformia,  
 inae basi corollae inserta, inferne  
 villosa; antherae lineares, dorso  
 paullo supra basim <sup>max. rugatiles</sup> affixae,  
Stylus filiformis longitudine sta=  
 minum, ramis<sup>2</sup> brevibus cum  
 stigmatibus subcapitatis intus  
 planis in clavellam <sup>angulatam</sup> congluti=  
 natis. Ovarium biloculare,  
Orula in placentis lineari-oblan=  
 gis crassis, dissepimento utrinque  
 insertis, plurima, anatropa, <sup>pese</sup> im=  
 bricantia, superiora adscendentia,

inferiora pendula. Capsula  
 clavato-oblonga, <sup>cartilaginea,</sup> bilocularis, polysper-  
 ma, ab apice ad basim septicida,  
 semina ovalia, modice alata.  
 Embryo <sup>rectus,</sup> albumin carnosum  
 paullo brevior; radicula tereti  
 cotyledonibus ovatis longiore.  
 — Frutices sempervirentes? gla-  
 bri, Oceanici; stipulis brevibus vagi-  
 natis; pedunculis axillaribus apice  
 foliatis cymoso-plurifloris; floribus  
 albis.

This genus is founded upon the  
Binchona corymbifera of Forster, B.  
Philippica of Cavanilles, and specimens  
 gathered at the Feeje Islands in this  
 expedition, as also at the Friendly  
 Islands by Professor Harvey, — all  
 probably belonging to one species.  
 From <sup>genuine</sup> Exostema, to which Roemer  
 and Schultes and afterwards De Can-  
 delle referred them, they are distin-



quished by the convolute-imbricate ~~estivation~~ <sup>the versatile anthers, the</sup> estivation of the corolla, as well as ~~by~~ <sup>the</sup> inflorescence and habit. In Neddell's artificial analysis this genus would stand next to Cosmibuena\*. — If a plant of which the genus is named in memory of Sebastian Badus, a Genoese physician, who, in a work published A.D. 1663, ~~first wrote~~ <sup>was the first</sup> to write upon the botanical history of Peruvian Bark.

### 1. Badusa corymbifera.

B. foliis oblongo-lanceolatis seu ovato-oblongis utrinque acutis petiolatis; supra lucidis; pedunculis multifloris folio paullo brevioribus.

Var. a. pedicellis etc. glaberrimis;

\* But the anthers of B. acuminata, though described as linear, are barely oblong in the figure of Ruiz & Pavon.

Cura posterior. The characters of Badusa having been published, in the Proceedings of the American Academy of Arts and Sciences, 4, p. 308, I am unwilling to cancel the genus. But it must be remarked that, having now the opportunity of examining the flowers of ~~four~~ <sup>two</sup> species of Exostema Caribaea, longiflora, & a Mexican species closely related to E. Peruvianum, I find that their corolla is not valvate in estivation, nor of the valvular type, as Neddell (probably following Klotzsch) supposed. The estivation is decidedly quinquecuneally imbricated. Therefore it may be doubted whether the dorsifixed and more or less versatile (instead of the strictly basifixed or innate) anthers will ought to separate Badusa from Exostema as any thing more than a section. (Jan. 1861.)

calycis limbo 5-fido.

Binchona corymbifera, Forst. in  
Act. Ups. 3, p. 176, & Prodr. p. 15;  
Linn. f. suppl. p. 144; "Lamb.

Binch. p. 25, t. 5"  
B. (Exostemma) corymbifera, Pers. Syn. 1, p. 146.  
Exostemma corymbiferum, Roem.  
& Schult. Syst. 5, p. 20; DC. Prodr. 4,  
p. 360.  
Binchona Philippica, Cav. Ic.  
4, t. 329?

Exostemma Philippica, Roem. &  
Schult. l.c.?

Var. B. Nitensis: pedicellis etc.  
primis puberulis; floribus  
minoribus (semipollicaribus);  
calycis limbo brevior cupula-  
to leviter 5-dentato.

Hab. Muthuata (and Ovolau),  
Feeje Islands.

(Feeje specimens are said to belong to  
This is said to be a handsome.



white-flowered shrub, 10 or 20 feet high. The leaves vary from 3 to 5 or 6 inches long, and from one to two inches in width: they are subcoriaceous, smooth, and apparently bright green both sides. Petioles 3 to 9 lines long, stipules short, combined into a truncate and bidentate sheath; those of the uppermost <sup>or floral</sup> leaves small, nearly distinct, and deciduous. Peduncles axillary, slender, compressed, usually more than half the length of the leaves, rarely almost equalling them, bearing a small cyme of numerous crowded flowers, subtended by a pair of small leaves; the bracts at the secondary divisions also commonly foliaceous. Pedicels crowded, 2 or 3 lines long, in the present plant mostly minutely pubescent, at least when young, as also is the ~~calyx tube and~~ tube



of the calyx and the corolla in bud, in a slighter degree. Ovary or calyx-tube clavate, 2 lines long, crowned with a very short, cup-like, spreading, or obscurely 5-dentate limb, the height of which ~~hardly~~ ~~equals~~ is rather less than the breadth of the ~~ovary~~ summit of the ovary: this is persistent on the capsule. Corolla in bud half an inch long, then clavate, contorted-intricate in aestivation, one lobe being wholly exterior and one wholly interior; the lobes in <sup>narrowly oblong or</sup> anthesis <sup>linear</sup> are oblong, recurved-spreading and <sup>glabrous,</sup> equalling the tube in length, obtuse, the upper face lightly one-nerved. Stamens in all the specimens inserted into the very base of the ~~corolla~~ tube of the corolla, as in the figure of *Caranilles*, or even free from it and epigynous. Filaments filiform, as long as the

corolla, villous-pubescent below  
 the middle. Anthers linear, about  
 3 lines long, attached a little above the  
 bifid base, at length becoming <sup>more or less</sup>  
 transverse or versatile, glabrous; the  
 cells closely parallel and acute  
 at the base. Style as long as  
 the stamens, very slender, clavellate-  
 thickened and 4-6-angled at the sum-  
 mit, but a <sup>on each side</sup> groove indicating that  
 it is here composed of two branches  
 which are closely soldered together;  
 after maceration they may general-  
 ly be separated, not without some  
 force: the semi-capitate stigmas  
 also coherent. Ovary, &c. as in  
 the allied plants; the placenta  
~~tapering to~~ as long as the cell,  
 tapering to each end. Ovules more  
 or less imbricated, ~~the~~ fixed by one  
 end, the upper ones ascending, the  
 lower pendulous. Capsule 4 or  
 5 lines long, smooth and even, of a



firm or cartilaginous texture, septi-  
 cidal from the apex. Seeds <sup>rather numerous,</sup> oval or  
 oblong, a line and a half in length,  
 compressed parallel to the placenta,  
 with a roughish-reticulated testa,  
 and surrounded by a wing, which  
 is narrow on the sides but ex-  
 tended to the length of the nucle-  
 us at one or both ends. Embryo  
 slender, but nearly the length of  
 the soft fleshy albumen.

The specimens which Professor  
 Harvey gathered at Navarre I  
 take to be ~~Forster's~~ the same as  
 Forster's (our var. a.); and it also  
 accords well with the figure of  
binchona Philippica, var. (ex-  
 cept that the ~~capsule~~ capsule is not  
 quadrangular (~~probably~~ as that of  
 the latter is represented, perhaps ex-  
 ceptedly, as it is not so described  
 in the latter-men). The flowers  
 are nearly one third larger, and



the ~~limb~~ of the calyx is more conspicuous and more strongly toothed or cleft. Still I cannot regard the Feejee plant as specifically distinct.

I have a specimen, in flower only, of a plant ticketed "Cinchona contorta, Hook., Prince of Wales Island" (which island of that name?) which, if the fruit and seeds agree, would be referred to the present genus. The corolla is completely contorted in aestivation, and the anthers are sparsely hispid.

Dolicholobium. n. Gen.

Calyx tubo cylindrico elongato;  
 limbo amplo <sup>submembranaceo</sup> cyathi formi  
~~sen crateriformi~~ truncato  
 integerrimo rariusve sub-  
 lobato persistente. Corolla  
 hypocraterimorpha; limbo <sup>4-5</sup>/<sub>5</sub>-  
 partito, lobis oblongis obtusis-  
 simis plurinerviis aestivatione  
 contortis. Stamina <sup>4-5</sup>/<sub>5</sub>, tubo  
 infra faucem inserta, glabra, <sup>inclusa</sup>,  
 filamenta brevissima; antherae  
 lineares, basifixae, adn ~~in~~ <sup>in</sup>tror-  
 sum adnatae. Stylus bi-  
 fides, rami subspathulatis  
 sursum petaloides dilatatis  
 intus secus costam stigmato-  
 sis. Ovarium biloculare, ~~3~~  
 Ovula in placenta elongatis  
 crassis numerosissima, minuta,  
~~intricata~~

sursum imbricata, acicularia,  
 Capsula siliquaformis, teretia,  
 longissima, calycis limbo cra-  
 teriformi (<sup>seu pateriformi</sup> fructu multoties latiori)  
 plerumque coronata, demum  
 septici-da? Semina numer-  
 osissima sursum creberrima, ~~im-~~  
~~sursum imbricata~~, nucleo ovali,  
 ala angusta utrinque in eandem  
 simplicem longissimam <sup>sensim</sup> atten-  
 uata. Embryo in albumine  
<sup>parco</sup> carnosio rectus, cotyledonibus ova-  
<sup>l</sup> tis radícula infera ~~parva~~  
 parum brevioribus. ~~Arbus-~~  
~~cule vel Frutices~~ Vitienses;  
 foliis membranaceis <sup>petiolatis</sup> ~~obtusis~~ recte  
 penninerviis, venulis pulchre  
 reticulatis; stipulis interpetio-  
 laribus <sup>membranaceis</sup> ~~sub~~ foliaceis distinctis  
 obtusis planis plerumque ca-  
 ducis; pedunculis brevibus ex  
 axillis superioribus tri-pauci-  
 floris; calycis tubo corollae flori-  
 bus majusculis ~~altis~~; tubo





Sp. Nov.  
1. Dolicholobium oblongifolium (Tab.)

D. foliis oblongis seu elongato-ob-  
longis utrinque acutiusculis  
(2½-5 poll. longis); flore pentamero.

Tab. <sup>(Mbra or Mountains near)</sup>  
Sandal-wood Bay, Nanna-  
levu, Feejee Islands; where it was  
~~also~~ <sup>likewise</sup> collected by Mr. Milne, in blo-  
som, as also on Viti-levu, in 1858.

The Naturalists of ~~our~~ <sup>your</sup> Expedi-  
tion gathered <sup>2000</sup> fruiting specimens  
of this shrub, with barely the re-  
mains of a flower or two. ~~I am~~  
~~to~~ Flowering specimens were recent-  
ly gathered by Mr. Milne, in the  
voyage of the British surveying ship  
Herald. These have been kindly entrus-  
ted to me by Sir Wm Hooker, and  
have enabled me to complete the  
characters of an interesting bin-  
choraceous genus. The leaves

vary from  $2\frac{1}{2}$  to 5 inches in length,  
 and from broadly to narrowly oblong;  
 they are membranaceous, more or  
 less acute at the base and mostly  
 rather acuminate at the apex,  
 glabrous above, and also beneath  
 in Milne's specimens; but in ours  
 the midrib <sup>sometimes</sup> and ~~more~~ sparingly,  
 the <sup>min. over</sup> veins of the lower surface retain  
 more or less of the appressed hirsute  
 pubescence which occurs on the  
 nascent foliage and the shoots.  
 Primary veins <sup>8 to 13 pairs,</sup> straight and rather  
 conspicuous, simple; the veinlets ~~all~~  
 minute and of uniform size, forming  
 fine, transverse areolae. Petioles 6 to 9  
 lines long. Stipules mostly de-  
 ciduous from our specimens, ~~lost~~  
 but remaining on some of Milne's,  
 where they are an inch or even  
 an inch and a half in length, mem-  
 branaceous-foliaceous, oblong, entire,  
 distinct, at first silky-pubescent,



at length glabrous, somewhat striate-nerved. Peduncles ~~short~~ axillary or terminal, commonly not longer than the petioles, 3-5-flowered; ~~hirsute-pubescent~~ pedicels short. Calyx-tube and ovary 8 or 9 lines long, slender, hirsute-canescens; crowned with an expanded, cyathiform, greenish, membranaceous limb, 2 or 3 lines in length, which is truncate and entire, or sometimes irregularly or obscurely repand-toothed or lobed, ~~ciliate~~ hirsute-ciliate. Corolla apparently white, pubescent externally, especially the tube, which is <sup>9 or 10 lines long,</sup> ~~longer~~ cylindrical, slender, much narrower than the limb of the calyx, glabrous within; the limb 5-parted, rotately spreading; lobes narrowly oblong, obtuse, marked with several delicate parallel veins, contorted in aestivation, when expanded

about ~~as~~ long as the tube.  
 Stamens 5, inserted toward the  
 summit of the tube, glabrous;  
 filaments very short; anthers  
 linear, <sup>included,</sup> obtuse at both ends, the  
 narrow cells apposite and parallel,  
 adnate to a narrow connective,  
 introrse. Style shorter than  
 the stamens, 2-cleft almost to  
 the middle; the divisions flat  
 with a ~~thickened~~ ~~axis or~~  
~~midrib~~ <sup>thicker</sup> centre, petaloid-  
 dilated <sup>upward</sup>, or alate, stigmatic  
 from near the apex downward  
 on the middle of the inner face.  
 Ovary 2-celled, Ovules innum-  
 erable, upwardly imbricated on  
 the long and thickish placenta,  
 scabiform. Capsule 4 or 5  
 inches long, hardly above 2 lines  
 in diameter, cylindrical, minutely  
 pubescent or sometimes glabrate,  
 crowned with the <sup>subfoliaceous</sup> ~~large~~ limb of the

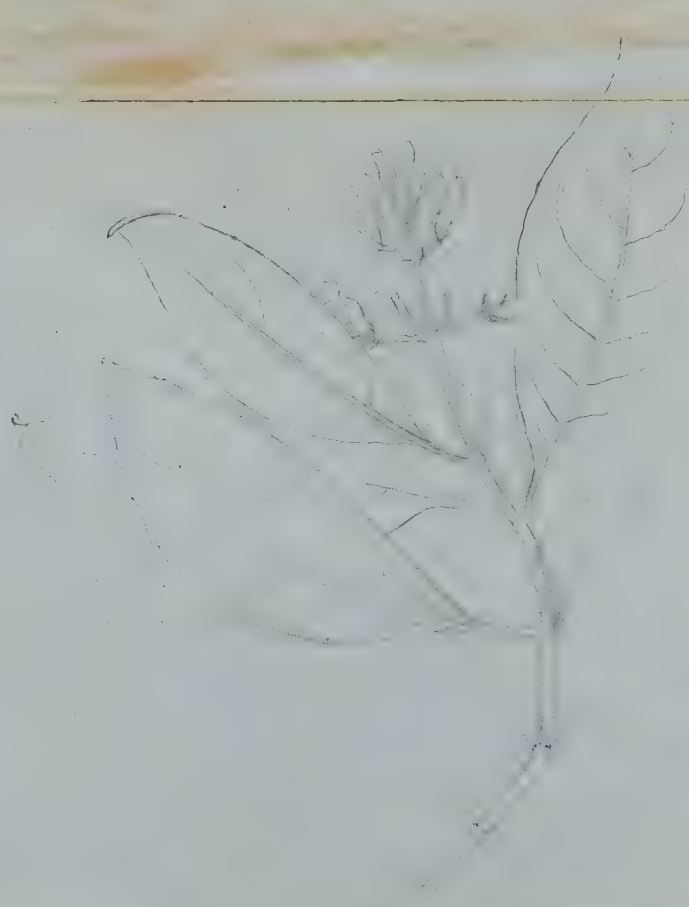


calyx, which however <sup>in</sup> some cases falls away before maturity; the epicarp somewhat herbaceous; the endocarp ~~thin~~ <sup>thin</sup> cartilaginous, not thin. Seeds closely packed for the whole length of the cells on the placentae; the nucleus about half a line long, with a <sup>muriculate</sup> rugose-reticulated testa, barely surrounded by a scarious wing, which tapers <sup>gradually and</sup> nearly equally at both ends into a subulate appendage, the whole ~~about 2 to~~ 3 or 4 lines in length. Embryo nearly the length of the scanty and soft-fleshy albumen: radicle inferior, about the length of the ovate cotyledons.

Plate Dolicho ~~brachy~~ folium oblongi-  
folium; a fruiting branch. Also, Fig. 1, a flowering branch, with the stipules, from Herb. Hook., collected in the cruise of the Herald. 2. Gynaeceum, laid open, and an imperfect? style; the flower probably sterile. 3. Dorsal, and 4. Ventral, view of a stamen. 5. Gynaeceum, laid open, and style of a futile flower, the anthers reduced in size. 6. One of these anthers detached. 7. Summit of the bilamellar style of fig. 5, more magnified. 8. The whole style, with the epigynous disk. 9. Portion of <sup>an ovary</sup> ~~the capsule~~, with a transverse section. 10. Longitudinal section of the summit of an ~~capsule~~ <sup>ovary</sup>. 11. An ovule. 12. Transverse section of a capsule. 13. Longitudinal section of the summit of a capsule. 14. A seed. 15. The same more magnified, with the nucleus divided to show the embryo. - The details all magnified.



17  
20



2. Dolicholobium latifolium, Sp. Nov. (Tab. )

D. foliis latissime obovatis basi  
rotundatis vel obtusissimis (5-7  
poll. longis); flore tetramero.

Tab. Orolan, Feejee Islands.

A single specimen <sup>exists</sup> ~~occurs~~ in the collection, with full grown fruit, and a loose tetramerous flower, which probably belongs to the species. The leaves are much larger than in the preceding species, as well as of a ~~different~~ different shape, and the petiole, midrib, and veins more silky-hirsute; the venation similar. Capsule similar, but more hirsute, 5 <sup>or 6</sup> inches long, crowned with a crateriform limb of the calyx which is half an inch in diameter. Seeds, 8, as in the preceding species. The

detached corolla (of which sketches had been made by Mr. Rich) is evidently of this genus. At least, it differs from that of D. oblongifolium merely in its larger size (the tube fully an inch in length), and in having only four, proportionally rather narrower segments; the anthers also a little longer. Dr. Pickering refers to the plant in his notes, as a shrub, 10 feet high, with a quadrifid corolla.\*

Plate

Dolicholobium latifolium

; in fruit. Fig. 1. Section of a part of the capsule. 2. A seed. 3. The same with the nucleus divided, showing the embryo. 4. The embryo detached. 5. A detached corolla, mentioned above, <sup>(of the natural size)</sup> 6. The same laid open. 7, 8. Anthers. ~~The details~~

\* Dolicholobium longissimum of Dr. Seemann, (no. 215) in the list of his Fuegian collection, is perhaps a good species, but ~~the~~ with the leaves narrower than in D. latifolium and downy beneath; but better specimens of both are needed to settle the point.



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Gardenia, Ellis.

1. Gardenia Taitensis, DC.

Gardenia Taitensis, DC. Prodr. 4.

p. 380; Guill. Rept. Tait, p. 51

G. florida, Forst. Prodr. p. 20, non L.

Hab. Tahiti, Fongatapu, Futuila, Disappointment Island; in blossom. Vanua-levu, ~~Disappointment~~ Feejee Islands; a small-leaved form, with mature fruit.

The vertical, foliaceous calyx-lobes, only 3 or 4 in number (or when five, two of them abbreviated), and much shorter than the tube of the <sup>5-8-lobed</sup> corolla, distinguish this species.

If the Feejean specimens also belong to ~~this~~ it, <sup>(the calyx &c. being similar)</sup> as is probable, the mature fruit is spherical, <sup>not ribbed,</sup> and about two-thirds of an inch in diameter. But the corollas of this, and the fruit of the <sup>ordinary</sup> ~~Tahitian~~ plant are unknown.

The G. Taitensis, moreover, is unfortunately named; for it is not indige-

now to Tahiti, but was probably introduced from the Friendly or Navigators' Islands.\*

Randia, Host.

1. Randia ferrug. DC.

Stat. Organ Mountains, near Rio Janeiro, Brazil.

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\* Seemann's Gardenia Vitiensis, although in foliage resembling our Tree an ~~specimen~~ plant, is very different in the flower, being closely related to G. Thunbergia.

Tocoyena, Aubl.1. Tocoyena hirsuta, Moric.

(in Ob. Pindr. 4, p. 325, 88)  
Tocoyena hirsuta, Moric. Pl. Amer.  
 t. 56; Mart. Herb. Bras. p.  
 321.

Hab. Brazil, near Rio Janeiro.2. Tocoyena bullata, Mart. l.c.Hab. Brazil, in the Organ Mountains.Posoqueria, Aubl.1. Posoqueria revoluta, Nees.Hab. Rio Janeiro, Brazil.



Sabicea, Aubl.1. Sabicea eriantha, Ab.

Hab. Rio Janeiro, Brazil, (in blossom.)

Coccocypselum, Swartz.

1. Coccocypselum aureum, Cham. & Schlecht.

2. Coccocypselum nummularifolium, Cham. & Schlecht.

3. Coccocypselum cordifolium, Nes & Mart.

4. Coccocypselum montanum, Mart.?

Hab. Brazil: specimens of these four species (the latter doubtfully named) were gathered near Rio Janeiro, or ~~near~~ in the Organ Mountains. The first is probably C. dichrocladium, Mart.; the last is the same as Miers' no. 4126, and perhaps an undescribed species.

Mussaenda, Linn.1. Mussaenda frondosa, Linn.

Hab. Tutuilla and Manua,  
 Navigators' Islands. Orolan,  
 Sonn-Sonn, &c. Feejee Islands;  
 both glabrate and soft-downy forms.

Apparently not different from  
 the East Indian species, which is  
~~also~~ very variable. Doubtless the same  
 as Forster's M. frondosa from Tahiti;  
 in the forests of which our natural-  
 ists noticed a Mussaenda, but  
 without flowers or fruit; wherefore  
 no specimens were gathered. The  
 mucronate tips of the lobes of the cor-  
 olla vary in length. The aestivation  
 of the corolla in this genus is  
 probably well known, but is not  
 mentioned in systematic works. It  
 is <sup>valv</sup>valvate and unusually strongly repli-  
 cative, the folds either straight and  
 salient or sometimes plicate-twisted.

Stylacoryne, Car.

1. Stylacoryne Mobera, A. Rich.

Hab. Small island in the Sooloo Sea.

The elongated-clavate stigma, in this as in other species of the genus, is separable into two divisions, which are rather conglutinate than connate.

2. Stylacoryne pambucina

S. foliis oblongo-ellipticis seu lanceolato-oblongis utrinque acutis acuminatisve longius- cule petiolatis submembrana- ceis cum ramis quadrangul- aribus glabris, venis primariis 14-18 perspicuis; stipulis late triangulatis; cyma terminali decomposita in pedunculo com-



mini brevi densiflora; calycis  
obovato-oblongi dentibus brevissimis  
rotundatis ciliolatis;  
Corolla griseo-pubera, lobis  
angusto-oblongis obtusissimis  
tubum adaequantibus, fauce  
nuda; bacca globisphaerica  
10-16-sperma.

Coffea sambucina, Forst. Prodr.  
 p. 16; Spreng. Pugill. 1. p. 16.  
Chiococca sambucina, Spreng. Syst.  
 Veg. 1. p. 756.

Parvella sambucina, DC. Prodr.  
 4. p. 492.

Stylacoryne pepericarpa, Benth.  
 in Hook. Lond. Jour. Bot.  
 2. p. 223.

Hab. Tutuila and Manua,  
 Sumuan or Navigators' Islands;  
 Tongatabu; Ovolau and Nanna-  
 levu, Feejee Islands; Tahiti and  
 Matia, Society Islands, in mountain  
 forests.

I believe this to be Forster's  
Coffea sambucina, <sup>from the Tonga or Feejee Islands,</sup> and have there-

fore adopted that specific name. One of its forms with thinner leaves and smaller fruit than others, is ~~Benthania~~ gathered by Mr. Skind at the Feeje, and by Mr. Barclay at the Friendly Islands, is Benthania's Stylocoryne pericarpa. Prof. Harvey also found it, in fruit, at the Feeje Islands. - It is a shrub or small tree, glabrous except a slight canescence of the young <sup>(quadrangular)</sup> branches and inflorescence. Leaves 4 to 8 inches long, and from  $1\frac{1}{4}$  to  $3\frac{1}{2}$  inches wide, on petioles of an inch or less in length; the straightish primary veins pretty conspicuous beneath, especially in the thinner-leaved specimens. Stipules short, and broadly triangular, acute, deciduous. Flowers very numerous in a sessile and trichotomous, or a short-peduncled and several decomposed cyme; the ultimate divisions crowded and fastigate. ~~Limb~~ Calyx less than a line in length; the limb very short, not



larger than the breadth of the  
 summit of the ovary, ~~5-lobed~~,  
 rather deeply cleft into 5 broad  
 and very obtuse teeth, Corolla  
 woody with a fine <sup>very</sup> ~~fine~~ <sup>appressed</sup> pub-  
 escence; the tube 2 or 2½ lines  
 long: the lobes about the same  
 length, narrowly obovate-oblong  
 or spatulate-oblong, very ~~obtusely~~  
 obtuse, convolute in aestivation;  
 the throat glabrous or nearly so,  
 i.e. destitute of the beard of S.  
Webera, &c. Filaments very short;  
 anthers linear, with an acutely  
 sagittate base. Style that of  
 the genus, exserted, the stigma  
 at length bipartite. Ovary 2-celled,  
 the cells pluriovulate. Fruit a  
~~spherical~~ spherical berry, of the  
 size of a peppercorn or a little  
 larger, ripening from 10 to 16 an-  
 gulate seeds. Albumen hard-  
 fleshy.



### 3. Stylocoryne Coffeoides.

St. tota glaberrima; foliis subcori-  
aceis ovato-sen elliptico-oblongis  
acuminatis basi acutis breviter  
petiolatis supra nitidis; ~~venis~~  
~~primariis 10-15~~ subtus perspicuis  
stipulis triangulatis acuminatis  
caducis; cymis axillaribus (ter-  
minalibusque laxifloris folio  
multo brevioribus; calycis lim-  
bo ~~brevisimo~~ truncato dentic-  
ulato; corolla glabra, lobis  
5 oblongis obtusis tubum ad-  
equantibus, fauce hirsutissima;  
bacca sphaerica polysperma.

Stylocoryne racemosa, Hook. &  
Arn. Bot. Beech. p. 64, non  
bar.

Coffea odorata, Forst. Prodr. p.  
16? DC. l. c. p. 500?

Ixora odorata, Spreng. Syst.  
Neg. 1, p. 409, ex char.

Itab. Upolu, one of the Samo-  
an or Friendly Islands (also Navau

and Lifuka, Prof. Harvey). Tahiti,  
Society Islands.

Branches nearly terete, very  
glabrous, as is the whole plant.  
Leaves varying from ovate to lan-  
ceolate-oblong, 3 to 6 inches in length,  
of a firm texture, but hardly cori-  
aceous, smooth and shining above,  
dull beneath, the base contracted  
into a petiole of 3 or 4 lines in  
length. Stipules ~~pointed~~ entire, ~~pointed~~  
bymes axillary (and sometimes  
also terminal), on very short pedun-  
cles, rather small, about half  
the length of the leaves, at length  
bifurcate or divaricate and loosely-  
flowered: pedicels slender, 2 to 4  
lines long. Calyx ovate, with  
a short and cup-like, truncate and  
barely 5-denticulate, persistent limb.  
Corolla white, in bud half an  
inch long, externally very glabrous,  
the lobes oblong or elongated oblong,  
obtusely, convolute in aestivation,  
rather longer than the tube; the  
throat <sup>densely</sup> conspicuously bearded with

longer and more hirsute hairs than is common in the genus. Anthers on short filaments, elongated-linear and acute. Style not longer than the anthers or the lobes of the corolla, the clavate and acute summit separable into two plano-convex, linear-nubulate lobes. Ovary 2-celled. Ovules numerous, closely packed on an oblong placenta. Fruit a globose berry (in spec. coll. Harvey), about 3 lines in diameter, ripening from 6 to 20 seeds. Seeds horizontal, depressed, somewhat angled; the testa nearly smooth. Embryos small and slender, in hard albumen.

In habit this differs considerably from the foregoing species; but it is clearly of this genus. I think it cannot be the Stylocyne racemosa of Baranilles, which came from Manila, the ~~the~~ calyx of which is described.



and figured as pretty strongly 5-toothed, &c. Certainly it is not plant described by Hasskarl in his Retzia, which may well be ~~that~~ the same as that collected by Charles Wright in the Looe-Heer Islands. I suspect our plant to be Horster's *Coffea odorata*, although the leaves can hardly be called ovate. But Sprengel's diagnosis, apparently drawn from an original specimen well applies to our specimens. All the flowers examined are ~~pentamerous~~ pentamerous.

Professor Harvey found an allied species in the Feejee Islands, of which the characters are subjoined.

\* *Stylocoryne Harveyi* (sp. nov.); glaberrima; foliis chartaceis oblongis acuminatis basi in petiolum longiusculum contractis; cymis axillaribus terminalibusque petiolum vix superantibus subsessilibus; calycis ~~lobis~~ limbo quadripartito, lobis triangularibus subulatis tubo vix

brevioribus; corollae lobis 4 lineari-oblongis tubo longioribus, fauce imberbi. — Leaves 4 to 5½ inches long, 1¼ to 2 inches wide, dull; petioles of the larger leaves an inch long. ~~Flowers rose.~~ Corolla scarcely 4 lines long, rose-color? Mature fruit unknown. — The larger petioles, and smaller flowers (all examined tetramerous), with the corolla naked within, and strong calyx-teeth, distinguish this from *S. coffeoides*.

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Gouldia, Nov. Gen.

Calyx tubo obovato vel turbinato;  
limbo brevi quadripido. br-  
olla hypocraterimorpha, <sup>subconjacea</sup> undique  
glabra; limbo 4-partito,  
lobis activatione valvatis. Ha-  
mina 4, conlla fauci inserta;  
filamenta brevisima; antherae  
inclusae, longo lineares,  
acutae. Stylus gracilis,  
apice bifidus; stigmata fil-  
iformia acuta, in G. Roman-  
zoffiensis crassiora. Ovarium  
biloculare. Ovula in pla-  
centis crassis medio dissipi-  
mento utrinque insertis plurima,  
parva, amphitropa. Bac-  
ca drupacea bilocularis,  
endocarpio pergameno <sup>no</sup>;



placentis spongioso-carnosis alveo-  
latis oligo-pleiospermis. Semina  
angulata vel complanata, ~~sub-~~  
peltata, nunc in alveolis  
placenta subimmersa: testa  
nucleo conformis, tenui-crusta-  
cea, pellicula papuloso-retic-  
ulata. Embryo intra albu-  
men subcartilagineum rectus;  
cotyledonibus ovatis parvis ra-  
dicula vix brevioribus. — Fru-  
tices vel arbusculæ insu-  
larum; foliis oblongis brevi-  
petiolatis; stipulis brevibus  
<sup>utrinque integris</sup> subvaginatis; floribus viridulis  
albidisve cymosis vel sub-  
solitariis.

Kadua spec. (4 et 6), Cham. &  
Schlecht. in Linnaea, 4, p.  
162, 164  
Petersia, Hook. & Arn. Bot. Beech.  
Voy. p. 64, 85. non P. Browne, nec  
aliorum.



The plants for which the above generic character has now been framed were taken for congeneres by Chamisso and Schlechtendal, and afterwards, quite independently, by Hooker and Arnott. On the whole they appear to be properly associated, although the differences between them are not unimportant. The first species is a tall shrub or small tree, with caducous stipules which are more or less connate within the petioles; the inflorescence, habit, &c. is nearly that of Stylocoryne; the branches of the style are filiform or subulate; and the small drupaceous berry is imperforate at the naked apex. The other is a low, diffusely branched, maritime shrub, with fleshy-coriaceous leaves; the stipules distinctly vaginate, although very short,

and adnate to the base of the petals, which they thus unite, in the manner of Kadua, &c.; the flowers are ~~solitary~~ <sup>even</sup> or few (3-7) in a cyme or ~~also~~ <sup>even</sup> solitary; the stigmas are thicker and shortish; and the large, pyriform, whitish, drupaceous berry, at maturity opens at the beaked apex by a round hole or a short transverse chink, through the ~~paper~~ <sup>hard</sup> parchment-like endocarp and discharges the seeds. Wherefore it is not sur-

prising that Chamisso and Schlechtendal referred the species to their genus Kadua, to which, in deed, it is manifestly related, <sup>through K. Mauriziana</sup> but which is quite sufficiently <sup>various</sup> ~~diverse~~ in character without any ~~species~~ baccate species. The small, at length nearly obliterated limb of the calyx, and the peltate seeds further distinguish

the present genus. Storker and  
 Krone, never suspecting that these  
 plants had been referred to Kadua,  
 made of them new species of the  
 fictitious genus Petesia; ~~And~~  
~~the latter~~ — a genus which, as  
 founded by P. Browne and adop-  
 ted by Linnaeus, is admitted to be  
 synonymous with Rondeletia, to  
 which ~~was~~ Swartz next added a  
 species of Gonzalea (for P. spicata,  
 Swartz is apparently Gonzalea  
spicata, Dc.); ~~and~~ <sup>afterwards</sup> which Gortner  
 the younger Gortner applied to  
 an Oceanic plant (perhaps an  
Ixora, or something of that sort,  
 upon which DeCandolle founded his  
 obscure genus Eumachia); and  
 which at length DeCandolle, instead  
 of dropping the genus altogether, ~~also~~  
 made a receptacle for some  
 dubious and probably heterogeneous



Philippine and Mexican species, proposed by Bartling. There is small likelihood that any of these are congeners of the present species.\* Nor can I refer the latter to any received genus. Fernelia, <sup>with</sup> which they might be compared, like Stylocoryne, has the corolla convolute in aestivation. I dedicate the genus to the excellent naturalist, Augustus A. Gould, M. D. of Boston, the author of the Conchology of this Expedition.

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\* Pitiesia grandis, Bartl. proves to be Somnera arborescens, Schlecht., ~~for this~~ and is retained by Grisebach as the type of Pitiesia, Bartling, Vid. Novitiae Fl. Panamae, in Baylandia 6. p. 8. P. nitida and P. lemnifolia, Bartl. are species of Limnium (vide supra, p. ), and P. hispida, Bartl., as Dr. Grisebach informs me, is of wholly doubtful genus, certainly not a Limnium nor a Rondeletia.

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1. Gouldia Sandwicensis. (Poe.)

G. foliis oblongis venosis; cymis  
confertifloris terminalibus nunc  
etiam lateralibus foliis ple-  
rumque brevioribus; calycis  
dentibus <sup>acutis</sup>; corollae tubo gracili  
lobis duplo longioribus; bac-  
cis atro-caeruleis parvis globosis.

Kadua affinis, Cham. & Schlecht. in Linnaea, 4, p. 164.  
(Can. Walp. in Bot. Meyen. p. 350?)

Var. a. terminalis: glaberrima;  
foliis membranaceis basi ple-  
rumque obtusis. Ludit cyma  
~~terminali~~ nunc sessili vel  
brevis pedunculata foliis  
multo brevior, nunc pedun-  
culata ampliori laxiore  
folia aequante vel superante,  
raro decomposita.

Petesia? terminalis, Hook. & Arn.  
Bot. Beech. Voy. p. 85.

~~Kadua affinis, Cham. & Schlecht. in Linnaea, 4, p. 164.~~

Var. β. coriacea: glaberrima; foliis  
coriaceis basi acutis; corollae  
tubo saepe perispermato-puber-  
ulo: cat. var. a. Ludit



foliis magis minusve venosis  
~~et~~ venulosis, ramis junioribus  
 costaque foliorum subtus nunc  
 hirtello-puberis.

Pteris coriacea, Hook. & Arn.  
 l.c.

Var. Hirtella: foliis plerumque  
 coriaceis ovali-ellipticis, pa-  
 gina inferiore nunc hirtello-  
~~scabrida~~, costa ramisque  
 sive costa ramisque juni-  
 oribus hirtellis vel hispid-  
 ulis; cymis densifloris teri-  
 bus terminalibus et axillari-  
 bus. (Nate foliorum quandoque  
 eximium.)

Hab. Sandwich Islands;  
 gathered by Menzies? <sup>Chamisso</sup> Macrae, and  
 most later collectors. "Friendly  
 Islands" A. Matthews, in herb. Hook.  
 Var.  $\alpha$ . Mountains behind Honolulu,  
 Oahu, in forests. Var.  $\beta$ . Kaala  
 Mountains, Oahu, &c. Var.  $\gamma$ .  
 Hawaii, Mouna Kea, and elsewhere;  
 Kauai; also in the mountains of

Oahu.

Series of forms, intermediate between each of those here characterized, leave no doubt that they all belong to one polymorphous species, although the extremes differ greatly in appearance.

The species is a shrub or small tree, with leaves from 2 to 5 inches long and one or two inches broad, or petioles of  $1\frac{1}{2}$  to 4 lines in length. <sup>on each side</sup> Stipules broadly triangular, <sup>more or less connate, but free from the petioles,</sup> acute, ~~or nearly so~~ distinct, <sup>or nearly so</sup> caducous. Ovary contracted, sessile or nearly so, and shorter than the leaves or in var a, ~~larger~~ sometimes larger, looser, and on a peduncle an inch long, in some specimens ample and decompound. Pedicels from one to three lines in length. Lobe of the calyx triangular, acute, nearly half the length of the ovary, more or less persistent on the fruit. Tube of the <sup>hypogynous</sup> corolla yellowish-green, barely 3 lines long, slender, smooth,



in var.  $\beta$  somewhat pruinose-glandular outside; the lobes oblong, obtuse, <sup>thick,</sup> valvate in aestivation; the throat  $\delta$ . beardless. Anthers linear, acute, <sup>emarginate-tipped at the base,</sup> ~~attached~~ inserted by a short filament into the throat of the corolla, from which the tips of the anthers slightly protrude. Style slender, cleft above the middle into two filiform acute divisions, the upper part of which is minutely papillose-puberulent or stigmatose. Ovary,  $\delta$ . as in *G. Romanoffensis*, ~~*G. glauca*~~, but the ovules less numerous. Fruit spherical, ~~about~~ <sup>2 or 3</sup> lines in diameter, ~~blue to~~ "dark blue", drupaceous rather than a true berry, the ~~sarcode~~ flesh abundant, but the cells lined with a chartaceous or thin crustaceous endocarp, <sup>closed,</sup> Placenta less thick and spongy than in *G. Romanoffensis*, ~~*G. cordata*~~, but similar in character, each maturing from 8 to 12 angulate-compressed, peltate seeds, of proportionally larger size. Testa crustaceous, <sup>int.</sup> with a cellular-papillose



pellicle. In var.  $\beta$ , with firm coriaceous leaves, the venation is inconspicuous, the veinlets obscure. In the other forms the primary and secondary veins are more or less conspicuous, and the fine reticulations of the veinlets evident under a lens: in many specimens, especially of var.  $\gamma$ , this reticulation is strongly marked upon the epidermis of both surfaces of the leaf, in the dried specimens, in so striking a manner that such specimens would be regarded as distinct in species, — especially those which ~~are~~ are shining as if varnished; but this character is not constant, and, moreover, it is <sup>occasionally</sup> discernable in the other varieties.

There is in the collection a single, ~~free~~ small specimen from the mountains of East Maui, with young fruit only, apparently of this genus, but with thin membranaceous leaves and slender petioles, which apparently indicate a distinct species; yet it may be only a form of *G. sandwicensis*.

2. Gouldia Romanzoffiensis,G. glabra, humilis, ramosissima;

foliis obovatis seu oblongo-spa-  
thulatis obtusis <sup>(coriaceo)</sup> carnosis basi  
attenuatis; stipulis compatiolari-  
bus brevissimis utrinque uni-  
dentatis; floribus paucis in  
cymula terminali brevi rari-  
usve in axillis superioribus  
solitariis; calycis dentibus  
obtusissimis in fructu obsoletis;  
corollae tubo brevi; stigmatibus  
subdilatis; baccis magnis  
pyriformibus <sup>mutantibus</sup> albidis, perma-  
turis vertice foramine seu rima  
brevi transversa perforatis.

Kadua Romanzoffiensis, Cham.  
Schlecht. in Linn. na. 4. p. 162;  
Ob. Prodr. 4. p. 431.

Petesia carnea, Hook. & Arn. Bot.  
Beech. Voy. p. 64.



Ital. Karaka, Kurick, Mil-  
suis, King's, and other Coral Islands

A. maritime shrub, glabrous,  
diffusely much branched, a foot  
or two in height. Stipules short,  
broadly triangular and apiculate, ~~trun-~~  
~~ted at the~~ connate into a very short  
sheath, which is adnate with the  
bases of the petioles, so that all  
separate together when the leaves are  
disarticulated. Leaves fleshy, coriaceous,  
obovate, oblong-obovate, or in one form  
spatulate-oblancoate, one or  
two inches long, tapering into a  
very short petiole, rounded or very  
obtus at the apex, or else obscurely  
mucronate-pointed, the primary  
veins more or less visible in the  
dried specimens, but not the vein-  
lets. Flowers few (3 to 7) in a  
small and simple, sessile or short  
peduncled cyme, which is much  
<sup>(or some of them solitary in the upper axils)</sup>  
shorter than the leaves, expanded  
~~flowers not~~ blossoms not seen, but  
the flower-buds only 3 lines long.  
Calyx-teeth much shorter than the  
ovary, ovate, very obtuse. Corolla  
thick in the bud, the tube some-  
what funnel-form? the lobes ovate,  
valvate in aestivation; the throat,  
&c. perpetually glabrous. Anthers  
linear-oblong, subsessile, acute or  
apiculate, attached above the  
~~an~~ bifid base, incumbent. Ovary



two-celled; the thickish placenta  
 fixed to the middle of the parti-  
 tion, covered with small peltate  
 ovules. Fruit nodding on pedi-  
 cels of 2 or 3 lines in length, ~~ob-~~  
<sup>pyriform</sup> ~~state~~ or subglobose, about half  
 an inch long at maturity, "white  
 with a bluish tinge" according to  
 a note of the collectors; the flesh  
~~apparently~~ copious but rather  
 spongy; the <sup>two</sup> cells lined with a  
 thin, parchment-like or almost  
 cartilaginous endocarp; ~~the~~  
 the summit naked and somewhat  
 truncate (the short calyx-teeth  
 being obsolete) the naked vertex  
 perforate at maturity by a round  
 foramen <sup>or a short transverse chink</sup> through which the  
 seeds may escape. Placenta  
 thick, spongy in texture, farose,  
 each bearing from 8 to 12 seeds,  
 which are <sup>peltate</sup> angulate-depressed,  
 and partly immersed in the pits  
 of the placenta. Testa con-  
 formed to the nucleus, thin-  
 crustaceous, blackish, thickly  
 and very minutely papillose. Albumen

between cartilaginous and  
fleshy. Embryo small, little  
shorter than the albumen; cotyle-  
dons scarcely broader than  
the radicle and almost as  
long.

Lerchea, Linn.

(Tab. )  
 1. Lerchea calycina, sp. nov. K

L. foliis oblongo-lanceolatis acuminatis basi attenuatis, junioribus (praesertim costis venisque sublus) cum ~~ramulis~~ stipulis integerrimis ovato-lanceolatis caudato-acuminatis ramulis floribusque ferrugineo-sericeis; cymis condensatis; lobis calycis <sup>lineari-</sup>spatulatis foliaceis tubo corollae parum brevioribus.

Stat. Heijee Islands; Ovalau, in fruit only. Also Niti-levu, ~~the~~ <sup>with flowers</sup> "in high, woody districts, inland," Mr. Milne; with flowers.

Shrub, "from 6 to 12 feet high; all the young parts clothed with a fine, appressed, silky-villous, <sup>ferrugineous</sup> pubescence which remains on the midrib and primary veins of the lower side of the leaves. Branches ~~are~~ slender. Leaves membranaceous,



3½ to 5 inches long, oblong-lanceolate, tapering to both ends, especially at the base, which ~~is~~ is attenuated into a short petiole; the primary veins conspicuous underneath, 12 to 14 pairs; the upper surface glabrate. Stipules single on each side and entire, barely half an inch long, rufous-silky outside, tapering from broad base into a slender acumination, tardily deciduous. Peduncles axillary, an inch or less in length, slender, bearing a glomerate cyme of many small flowers. Calyx more or less ferruginous-hairy; the limb completely divided into 5 spatulate or linear-spatulate, foliaceous, spreading lobes, which are more than twice the length of ~~the~~<sup>its</sup> obovate or turbinate tube, and almost as long as the tube of the corolla. Corolla tubular-funnel-form, pubescent externally in the ~~bud~~<sup>but</sup>, at length glabrate or glabrous; the tube 2 lines long; the limb 5-parted, the lobes oblong-

(obtusely,

ovate, valvate in aestivation, spreading in anthesis, glabrous within; the throat and upper part of the tube within exceedingly villous with <sup>long</sup> white hairs. Stamens 5, inserted in the throat among the villous beard; the filaments short, slender, glabrous; anthers ~~oblong~~ elongated-oblong, emarginate or slightly bifid at both ends, inserted near the base, incumbent, glabrous (destitute of the few small setae represented in those of *L. longicauda*), their summits along with the dense beard slightly protruding from the throat of the corolla. Style filiform, ~~at length~~ at length projecting to the length of the lobes of the corolla, canescent with a minute appressed pubescence; stigma capitate-two-lobed. Ovary 2-celled, crowned with a conspicuous ~~epigynous~~, ~~disk~~ annular or short-columnar, externally somewhat 5-lobed, epigynous disk, which surrounds



the base of the style. Placenta thick, attached to the dissipation, covered with numerous, closely packed ovules. Fruit ~~dry~~, crowned with the more or less withering calyx-lobes, dry, little more than a line in length, obovate, dehiscent. The thin epicarp separable from the cartilaginous endocarp or cocci, septicidal, the cocci at length opening by their ventral suture, many-seeded. Seeds very small, oval, <sup>somewhat angled or compressing</sup> ~~acutely~~ at <sup>by mutual pressure</sup> ~~the ends~~, the testa conformed to the nucleus, minutely scrobiculate.

The single specimen, with fruit only, ~~collected~~ gathered in our Expedition, had been engraved on plate, under Mr. Rich's superintendence. I have merely added the details of



(does not stand in the way of this approximation, as the ~~new~~ <sup>known</sup> ~~Blume's~~ Reinwardt's plant differs from the published description.)  
 also the fruit; ~~and~~ of the flowers from  
 a specimen fortunately collected  
 by Mr. Milne (in the <sup>cruise</sup> ~~voyage~~ of  
 the Herald among the Feejee Islands),  
 which was entrusted to me from  
 the Hookerian herbarium. The  
 plant is evidently a near relative  
 of Reinwardt's Hanthophyllum  
particulosum from Java. Indeed,  
 should Blume's character "stipulae  
~~geminatae~~ <sup>magnae</sup> ~~geminatae~~ <sup>bipidae</sup>" not be incorrect  
 in the latter particular, nothing of  
 any importance ~~remaining~~ would remain  
 in the description to distinguish  
 that from the present plant.  
 Mr. Bennett <sup>remarks</sup> (in Pl. Jav.  
 Rarior., p. 101), <sup>implying</sup> ~~implying~~ ~~or supposes~~  
 that the aestivation of the corolla in  
 Reinwardt's original Hanthophyllum  
 is imbricated (or rather convolute)  
 as in Wundlandia. In our plant  
 it is certainly valvular. So that,  
 whether <sup>or not</sup> H. particulosum also is to be  
 referred to Lerchea (as Korthals sug-  
 gests), I cannot hesitate to include  
 our plant in that genus. The  
 enlarged and foliaceous lobes of the

calyx seem to be peculiar to the present species: they could not have escaped remark if in ~~the~~ the Luvian plant. The stigma in *L. calycina* accords with *Xanthostyrum*; but that of *L. longicauda*, as figured in the work above cited, would be similar if the lobes were shortened. The ventrally-dehiscent cocci of our species are probably not peculiar.

### Plate

### *Lerchea calycina.*

Fig. 1. Young flower-bud. 2. Diagram of the activation of the corolla. 3. A flower. 4. Corolla laid open. 5. Stamens, anterior and posterior view. 6. Upper part of the style and the stigma. 7. Pistil, with the calyx and epigynous disk. 8. Same with ovary and disk vertically divided. 9. Fruit, crowned with the long lobes of the calyx. 10. Transverse section of the same. 11. The fruit dehiscent. 12. A seed. The details all variously magnified.

Argostemma, Wall.1. Argostemma uniflorum, Blume<sup>2</sup>

Hab. Luzon, in the mountains above Baños, near Manila.  
 In fruit only. Either this or an allied one-flowered species; the leaves are not acute.



2.

4. Gyrtandra, Frut.  
1. Gyrtandra villosa, Frut.

Ophiorhiza, Lim.

1. Ophiorhiza peploides, sp. nov.

O. herbacea, humilis, diffuse  
ramosa; ramis puberulis foliosis;  
foliis parvis saepe 3-5-natis  
vel pseudoverticillatis spathulatis  
sen ovato-spathulatis basi longe  
attenuatis glabris; floribus sub-  
solitariis, ~~glabris~~ ~~corolla~~ ~~oblongata~~ ~~intus~~  
~~extusque~~ ~~glaberrima~~; filamentis  
~~filiformibus~~ glabris; filam-  
entis filiformibus styloque exsertis.

Hab. Ovolau, Feejee Islands; where  
a narrow-leaved form was collected  
by Professor Harvey; as also by  
Mr. Milne, on Nanua-leve, along the  
margin of streams.

A singular little species,  
hardly more than a span high,  
much branched and leafy; the  
leaves resembling those of Peplis  
Portula, or of Ludwigia pulchra

or its near relative *L. spathulata*, only an inch or even half an inch in length, inclusive of the ~~petiole and~~ short petiole and the long tapering base, of 3 to 6 lines in length, which in the narrower form is gradually ~~attenuated~~ <sup>divergent</sup> in the broader, more abruptly contracted, smooth and somewhat erigulous above, pale beneath; the midrib only pubescent. Many of the leaves appear to be verticillate in threes or fours, but on the branches they are often plainly seen to be falsely whorled in fives, sixes, &c. Stipules obsolete or very small. Flowers terminal, becoming lateral, solitary, or 2 to 3 together. Peduncle 2 or 3 lines long, calyx-tube ovate-globose, the 5 teeth very small, subulate. Corolla 3 lines long, funnel-form, rose-color, glabrous externally; the lobes ovate, valvate in aestivation, as in the genus, the interior not bearded, but very minutely pubescent in the throat. Filaments inserted



low in throat, filiform, and nearly twice the length of the oblong anthers, which are exerted in anthesis. Style glabrous, longer than the stamens; stigma bilamellar, the lobes rotund. Capsule glabrous, rather strongly 2-lobed, 3 lines wide.

2. Ophiorhiza leptantha, sp. nov.

C. pruticosa, fere glabra; foliis ~~utrinque~~ laetivirentibus oblongo-  
seu elongato-lanceolatis  
utrinque acuminatis longa pe-  
tiolatis; stipulis utrinque binis  
setaceis; cyma terminali  
multiflora puberula; floribus  
plerisque secundis subsessilibus;  
corolla alba gracili ~~ultrapollis~~  
pollicari, ore tenuissime barba-  
to; staminibus inclusis; filamen-  
tis anthera aequilongis; stilo  
glabro.

alt. 1000 feet.  
 Hab. Grolan, Feejee Islands,  
 (Feejee Islands. Prof. Harvey.)

Branches woody to the summit,  
 minutely pubescent when young,  
 otherwise glabrous. Leaves light  
 green both sides, glabrous, 4 or 5 inches  
 long, ~~an inch~~ 9 to 16 lines wide,  
 acuminate, tapering at the base  
 into a slender petiole of an inch  
 or an inch and a half in length.  
 Stipules distinct, setaceous from  
 a slightly dilated base, 3 or 4  
 lines long. Cyme terminal,  
 compound, more or less paniculate,  
 densely many-flowered; the earlier  
 flowers more or less pedicelled,  
 the others mostly sessile or subsessile  
 and secund on the branches of  
 the cyme. Bracts subulate-se-  
 taceous, deciduous. Teeth of the  
 calyx short, acutish. Corolla  
 "white", slightly pubescent exter-  
 nally (under a lens); the slender  
 tube filiform, an inch in  
 length, or even somewhat longer;  
 the lobes ovate, the whole glabrous

within, except a very narrow and inconspicuous ring of delicate beard (of one-celled obtuse hairs several times larger than broad) at the orifice, some distance above the included stamens. Style very slender; lobes of the stigma oblong, obtuse.

3. Ophiorhiza laxa, sp. nov.

O. pruticosa; ramis junioribus  
saepe ferrugineo-pubescentis;  
foliis oblongis vel subovatis  
acuminatis longe petiolatis;  
cymis pauci-plurifloris laxis;  
floribus pedicellatis; corolla  
semi pollicari; cal. fere pra-  
cedentis, sed ramosior, laxior.

Hab. With the preceding. Also  
Arauc., Orolan, and Viti-leve, Mr.  
Milne; in woods and on mountains.

Of this "slender shrub" our own  
and Milne's collection furnish



several forms. I am by no means certain that all or any of them will prove distinct from the preceding species. The structure of the flowers is the same, but the corolla is only half as long; the cymes looser and fewer-flowered, often only ~~three~~ 3-5 flowers, and with manifest pedicels. The leaves vary from an inch and a half long, with a petiole of ~~the~~ three quarters of an <sup>in length</sup> inch, to 4 or 5 inches long with the petiole from one to  $2\frac{1}{2}$  inches, and in shape from ovate-oblong to ovate-lanceolate. The petiolar stipules are deciduous. Capsule nearly as in O. Munghos.

4. Opniorhiza subumbellata, <sup>Forst.</sup>

To this I may doubtfully refer two very imperfect specimens, not sufficient for proper characterization, - one from Tahiti (where Forster

obtained his *O. subumbellata*), the other from one of the Samoan Islands. The two agree in having the stipules single on each side, lanceolate, and scarious, those of the Tahiti specimen tapering into an awn-like point. In this the corollas are short, ob-ovate in the bud; but they seem to be abnormal. It may be noted that Forster's detailed description, of ~~*O. subumbellata*~~, printed from his manuscript by Guillemain in his *Tephrosia Fatiensis*, makes it doubtful if the *O. subumbellata* is really of this genus, since the leaves are said to be <sup>very long</sup> alternate, the lobes of the corolla reflexed-spreading, and sulcate in the middle, the capsule ovate and crowned with the persistent calyx. The stipules are not mentioned.\*

\* Mr. Bennett, the Curator of the Banksian Herbarium, has obligingly ascertained for me, that Forster's plant is truly an *Ophiorhiza*, with opposite leaves, although Forster's own drawing, like his description, makes them alternate. The unexpanded corollas are rather more than half an inch long, but in better specimens from Tahiti, collected by Nelson, they are fully an inch in length.



5. Ophiorhiza oblongifolia, DC.

Hab. Luzon, in the mountains near Baños. An imperfect specimen.

5. Ophiorhiza oblongifolia, DC.

b. Ophiorhiza acuminata, DC.?

Hab. Luzon, in the mountains near Baños. Imperfect specimens, in fruit only. The latter same as Burnings's no. 599 and 1435.

Dentella, Forst.

1. Dentella repens, Forst.

Hab. Luzon; shores of Laguna near Manila.



Kadua, Cham. & Schlecht,

Char. emend. Calyx tubo hemi-  
 sphaerico vel turbinato; limbo  
 ad ovarium usque quadrisecto,  
 lobis <sup>saepe</sup> ~~sub~~ foliaceis. Corolla  
 subcoriacea, hyssocraterimorpha,  
 intus glabra; tubo <sup>elongato</sup> ~~gracili~~,  
 limbo quadripartito paten-  
 tissimo, lobis aestivatione val-  
 vatis marginibus pl. m. redupli-  
 catis, <sup>apicibus</sup> ~~inflexis~~ <sup>saepe</sup> Stamina 4, fauci  
 corollae inserta; filamenta bre-  
 vissima; antherae oblongae  
 vel lineares, dorso infra  
 medium affixae. Stylus  
 gracilis, inferne (K. contranthoide tantum excepta)  
 villosus; stigmata oblonga seu lineari-filiformia

Ovarium biloculare, vertice  
 planum. Ovula in pla-

centis medio dissepimento  
 adnatis innumera, amphitropa.  
 Capsula late turbinata, <sup>semihemisphaerica</sup> cartilaginea, calycis  
 lobis plerumque persistentibus  
 coronata, bilocularis, ~~polysperma~~  
~~ma~~, vertice rima trans-  
 versa. Loculicide nians, <sup>denarium</sup> ~~1~~ ~~1~~  
<sup>semibivalvis</sup> Semina creberrima, com-  
 pressa (in paucis alata vel  
 marginata), hilo marginali.  
 Embryo intra albumen car-  
 nosum rectus; cotyledonibus  
 ovatis radícula paullo brevioribus.  
 — Frutices vel suffrutices sandwicensis, facie  
 admodum diversi; foliis aut  
 coriaceis rigidis aut membra-  
 naceis; stipulis competalaribus  
 brevibus nudis utrinque

unidentatis; floribus nunc  
in cymis thyrsoides congestis,  
congestis, nunc in axillis  
solitariis terminis vel solitariis  
pedunculatis. (Flores interdum  
5-meri vel gynaeceum 3-merum.)

Kadua (excl. spec.) Cham,  
Schlecht. in Linnaea, 4, p.  
157; DC. Prodr. 4, p. 430.

Weigmannia, Meyer, "It. 2,  
p. 139"; Endl. Gen. p. 526;  
Walp. Rel. Meyer. p. 354,  
sed char. carp. falsus.

A group of plants, all natives  
of the Sandwich Islands, <sup>(very diverse</sup> ~~Polymor-~~  
~~phous~~ in habit, but homogeneous  
in floral characters, with the singu-  
lar exception that two species have  
winged seeds. These species (K. glom-  
erata and K. centranthoides) <sup>of Hooker and Brutt</sup> differ



(in appearance

so very widely from K. acuminata,  
and even from K. Menziesiana,  
(95.)

that they would unquestionably be  
generically separated, were it not  
for K. cordata, which is ~~completely~~  
~~intermediate~~ in general character and even  
by its seeds, connects <sup>intimately</sup> them with the

rest of the genus. Although the  
ovules are amphitropous, the  
seeds are not peltate, like  
those of Boucardia and Stou-  
tonia, but are attached by their  
margin, so that the <sup>wing</sup> (or margins,  
~~of the seed~~ when the seed are  
compressed, as they mostly are)  
is presented edgewise to the placenta.

The three smaller and barely suff-  
fruticose species too nearly ap-  
proach Kobantia, which, with  
a long and slender corolla has  
the capsule and seeds of Olden-  
landia. Even the foliage and  
perhaps the seeds also of Kadua

Corkiana (which may be regarded as the type of the ~~the~~ genus) are not unlike those of Kohautia. The more or less salient edges of the lobes of the corolla and the inflexion of their tips in aestivation may serve as a technical distinction. These tips are much inflexed in K. acuminata <sup>and its near relatives,</sup> ~~and K. spodi-~~ ~~ota~~, where they are long and tapering, but not at all in K. glomerata and K. centranthoides.

K. Menziesiana is ~~apparently~~ appears to be more woody than the other species, and to have a thicker-walled fruit, ~~the species~~ ~~rather fleshy~~, somewhat drupaceous ~~when young or~~ before full maturity. This led the authors of the genus to ~~refer to~~ include in it two fleshy-fruited shrubs,

of which they possessed incomplete materials. (Vide Gouldia, p. 9) Finally K. acuminata ~~and~~ K. petiolata, <sup>and K. gracilis compose</sup> ~~compose~~ ~~form~~ a group of peculiar habit and inflorescence, but unsupported by any floral or carpological characters to authorize the separation suggested by Nuttall ~~also~~ <sup>if one of them</sup> in applying to ~~a specimen~~ in the Hookerian herbarium, the generic name of Seueria. ~~The name doubtless~~

Meyers Weigmannia is evidently Kadia cordata, and what is described <sup>and</sup> figured as a single large seed <sup>in each cell</sup> consists of a mass of seeds closely packed upon the placenta!

The winged-seeded species could be referred to the Cinchoneae according to the present definition of the tribes; but this is ~~not~~ by no



means the only instance in, ~~which~~  
~~coniferous~~ ~~bin~~ plants of ~~the~~ the order  
 of both winged and wingless seeds  
 in the same genus. Heddell indi-  
 cates this in Danalia; I may add Ran-  
delia. Indeed, the Rhombo-

ra of Korthals seems to be another  
 Hedysotideous plant referred to  
binchoree upon this artificial  
 character, which in the same  
 way <sup>too</sup> widely separates Bouruadia  
 from Stonstonia. Even the dis-  
 tinction ~~of the polys~~ between  
 baccate, drupaceous, and capsu-  
 lar fruits in the polyspermous  
Rubiaceae is in many cases so in-  
 decisive, that we may have to pro-  
 ceed further ~~in this~~ than Mr. Ben-  
 tham has proposed, and <sup>wholly</sup> re-ar-  
 range this suborder, taking the  
 primary characters from aestiva-  
 tion, placentation, and stipulation.

The following are all the known species of Kadua. Forster's Oldenlandia foetida (Strobilites foetida, Smith, compared by him with his St. coriacea), if the specimen of the Hookerian herbarium which I have examined be authentic, is not of this genus; <sup>(not a genuine Oldenlandia, as Chamisso would have it)</sup> the stamens being inserted towards the base of the short tube of the corolla, <sup>on</sup> the filaments larger than the anthers; and the style entire and peltate dilated.

St. Flores in cymis thyrsisve congestis; corolla purpurea;  
folia coriacea, in prioribus  
quasi ~~nervata~~ lineato-  
costata.

1. Kadua centranthoides, Hook. & Arn.  
K. glaberrima, basi tantum lig-  
nosa, superne dissitifolia;  
foliis subsessilibus ovato-lanceo-  
latis summis subcordato-ovatis  
acutis acuminatis coriaceis  
lineato-venosis, floralibus  
parvis; bracteis subulatis mi-  
nutis; cymis dense multiflo-  
ris thyrsideo-paniculatis;  
calycis lobis ovario aequilongis  
tubo corollae gracilis multoties  
breviribus; stylo <sup>etiam</sup> glabro;  
capsula turbinata vertice  
convexiuscula; seminibus mem-  
branaceo-alatis!



Kadua centranthoides, Hook. & Arn. Bot.  
 Beech. Voy. p. 85.

Hub. Hawaii, Sandwich Islands;  
 on the coast, and on the crater  
 Lua Pele, &c.; gathered also by  
 Macrae and others.

This species is well named from  
 its likeness to Centranthus ruber  
 in foliage <sup>general</sup> and habit. Only the  
 base is woody, and with the leaves  
 rather crowded, sending up simple  
<sup>herbaceous flowering</sup> stems or virgate branches, from one  
 to 3 feet in length, smooth and  
 perhaps glaucous, as is the whole  
 plant, ~~bearing from 3 to~~ apparently  
 compressed or arcipital above, and  
 bearing from 3 to 6 pairs of sessile  
 leaves; ~~At with~~ the longer internodes  
 from 4 to 6 inches in length. Leaves

and firm,  
 thick, <sup>probably</sup> fleshy-coriaceous  
 in the living state, conspicuously  
 lineate with 7 to 10 pairs of parallel  
 veins, ovate-lanceolate, ovate or  
 the uppermost and reduced floral  
 ones subcordate, all sharply acuminate;  
 the lowest about 3 inches long;  
 the uppermost an inch or less.

Stipules broadly triangular with a  
 subulate point, connate and slightly  
~~enfold~~ <sup>enfold</sup> adnate to ~~the base of~~ the  
 leaves at their narrowed insertion,  
 rather persistent. Cymes many-  
 flowered, <sup>rather</sup> dense and small, terminal  
 (subtended a small pair of bracts) and  
 from the axils of the upper leaves,  
 where they are either subsessile or  
 on slender compressed peduncles;  
 the bracts and bractlets ~~are~~ minute  
 and subulate. Pedicels longer than  
 the calyx. Lobe of the calyx triangular-  
 subulate, bluntnish, hardly as long



(purple? with 291)  
as the ovary. Corolla slender-tube,  
~~for~~ half an inch long when fully  
developed; the oval, obtuse, ~~spreading~~  
lobes, <sup>only</sup> 1 1/2 to 2 lines long, thick <sup>and firm</sup> (as in  
all the species) valvate in aestivation  
with the combined edges salient, so  
as to render the bud four-angled  
at the summit (their summits  
not perceptibly inflexed), in anthesis  
widely spreading. Anthers oblong-  
linear, included in the throat.  
Style filiform, glabrous throughout,  
2-cleft at the apex, or with two  
linear-filiform obtuse stigmas,  
which are often coadunate.  
Placenta ~~fixed~~ fixed to the middle  
of the partition, covered with  
innumerable amphitropous ovules.  
Capsule between 2 and 3 lines in  
length and of equal breadth  
across the scarcely convex summit,  
lustrate, slightly grooved at  
the partition, obscurely 4-nerved.



Kelua center three, look, V. h.

thin - cartilaginous, with a mem-  
 branaceous epicarp (calyx-tube),  
 which wears away after dehiscence;  
 the spreading persistent calyx-teeth  
~~barely~~ less than a line in length.  
 Seeds extremely numerous, closely  
 packed upon the rather narrow  
 placenta, seditiform, flat.  
 The thin reticulated testa exten-  
 ded all round the nucleus into  
 a distinct and ~~broad~~ <sup>cylindrical</sup> anaple,  
~~somewhat~~ circular, wing,  
 inserted at or near one edge.  
 Embryo <sup>(scarcely)</sup> ind. fleshy albumen.

2. Kadua glomerata, Hook. & Arn.  
K. foliis crasso-coriaceis rigidis  
lineato-venosis oblongo-lanceo-  
latis summisve ovato-acumina-  
tis basi in petiolum brevis-  
simum latum subito contra-  
ctis caule que inferne pu-  
tescente glabris saepe  
glaucis; ~~cymis densifloris~~  
~~thyrsoides paniculatis~~ inflo-  
rescentia calycibus corollis-  
que K. centranthoidis sed  
pubescentibus; stilo (ut in  
genere) inferne villoso.

Kadua glomerata, Hook. &  
 Arn. Bot. Beech. Voy.  
 p. 85.



Hab. Mountains behind Honolulu, Oahu, Sandwich Islands. Also gathered by Gandichand, &c.

Similar in habit - - - - - and manifestly allied to the preceding species, this is at once distinguished by its downy-pubescent inflorescence and flowers, villous style, and <sup>as well as more rigid</sup> larger leaves, ~~of a firmer coriaceous~~ The cauline leaves are lanceolate or oblong-lanceolate, from 4 to 6 inches in length, an inch or rather more in width, the parallel veins or nerves less prominent, the base contracted into a very short and broad but manifest petiole, which are connected with the broadly triangular stipules. Upper leaves shorter, broader, and gradually reduced to the small floral ones. By ones or clusters naked; the bractlets small.

(linear-oblong,

Length of the calyx fully as long  
 as the ovary. Lobes of the corolla  
 oblong, very thick. Stigmas  
 or branches of the style filiform.  
 Fruit not seen; but the  
 ovules ~~after flower are~~ in the  
 gravid ovary already ~~showing~~  
 give indications of ~~the~~ winged  
 seeds.

*K. multiflora, glaberrima,*  
*K. centranthoides, Hook. & Arn.*



3. Kadua cordata, Cham. & Schlecht.

K. glabra, inferne fruticosa, ra-  
mosa; foliis subcoriaceis vix  
lineato-venosis, inferioribus  
et ramorum steriliis oblon-  
gis lanceolatisve acute acu-  
minatis in petiolum brevissi-  
imum contractis, superioribus  
minoribus dissitis ovatis cor-  
datis <sup>seu</sup> ovatisve arcte sessilibus,  
floralibus bracteisque conformi-  
bus cymulis <sup>as</sup> glomeratis ful-  
crantibus; calycis lobis ova-  
to-lanceolatis ovario duplo  
longioribus etiam capsu-  
lam subhemisphaericam

Vertice planiusculam super  
excedentibus; seminibus <sup>compressis</sup> ~~planis~~  
~~biformibus~~. planis.

Karna cordata, Cham. &  
Schlecht. in Linnaea, 4. p.  
160; Hook. & Arn. l.c.

Wiegmannia glauca, Meyen,  
Iter. 2. p. 139; Walp. Rel.  
Meyen. p. 354, t. 9, stirps  
angustifolia.

Var.  $\beta$ . Cymis evolutis, ramis  
ultimis secundifloris nudis.

Var. ? V. gracilis; foliis omnibus sessili-  
bus <sup>subtus interdum pilosulis,</sup> lucidulis, venis <sup>primariis</sup>  
inconspicuis, <sup>utrinque</sup> venulis crebre  
reticulatis; cymulis paucifloris  
parvifloris nudiusculis.

Itab. Oahu, Sandwich Islands,  
 on the mountains behind Honolulu,  
 found by Merries and most sub-  
 sequent collectors. Var.  $\beta$ . Moun-  
 tains of West Maui; a state of  
 the species also found upon Oahu  
 by Nuttall. Var.  $\gamma$ . A single,  
 rather undeveloped and doubtful  
 specimen, from the mountains of  
 Kauai, A form undoubtedly of  
K. cordata, gathered by Remy on  
 Lanai, with bracts of smaller  
 size may connect it with this  
 species.

More woody than K. centran-  
thoides; but the flowering shoots  
 seem to be nearly herbaceous; the  
 leaves thinner and less nervose,  
 the clusters of the cyme involucre  
 with the leafy bracts. The in-  
 florescence of the ordinary form,  
 and the flowers, &c. are well ex-  
 hibited in the figure of Weigmannia



glauca cited above; ~~But~~ but its  
 cauline leaves are represented as  
 narrower and more linear than  
 is common in this species. The  
 hairy style, the foliaceous lobes  
 of the calyx about half the length  
 of the tube of the corolla, fully  
 twice the length of the ovary,  
 and even longer than the some-  
 what hemispherical 8-nerved  
 capsule, however, leave no doubt  
 that Meyer's plant is K. cordata,  
 and even his figure shows indica-  
 tions of the mistake that was com-  
 mitted in representing the whole  
 contents of the cells as single  
 seeds. The seeds, which are very  
 numerous, are flattened by mutual  
 pressure, and some of them obscurely  
 winged or margined. The tube of  
 the corolla is shorter and thicker  
 than that of the foregoing species; the  
 lobes broadly ovate.

The specific name is not a  
 good one, as even the upper leaves  
 are but slightly cordate.

Schlecht.

4. Kadua Cookiana, Cham. & P.

K. gracilis, juncoides, glabra;  
 caulibus strictis basi tantum  
 ligniscentibus; foliis anguste  
 lanceolatis linearibusve utrius-  
 que attenuatis coriaceis nervulo-  
 so-reticulatis, floralibus bracteis-  
 que conformibus; thyrsis ter-  
 minali pauciflora; calycis  
 lobis <sup>subulato-</sup> lanceolatis ovarium ~~multo~~  
<sup>longe</sup> ~~to~~ superantibus atque ~~subdu-~~  
~~cto~~ longioribus quam capsu-  
 la basi turbinata apice  
 libero conica; seminibus  
 angulatis immarginatis.

Kadua Cookiana, Cham. & P.  
 Schlecht. in Linnaea, l.c.;  
 Db. Prodr. 4. p. 431.

Stat. Oahu, Sandwich Islands;  
on rocks, at Pali, behind Honolulu.  
Collected by Menzies, and by Cham-  
isso on Hawaii, at the place  
where Capt. Cook was killed.

~~This is the most slender species.~~  
The most slender species.  
Our specimens do not exceed a  
span in height (those of Menzies  
and of Chamisso are twice or  
thrice as tall); and their strict  
and rigid, slender stems are her-  
baceous from a lignescant base.  
Leaves rigid,  
1½ to 3 inches long, one or two  
lines wide, nervose-reticulated  
underneath. Stipules setaceous,  
subulate from a dilated base.  
Flowers few, thyrsoid. Bracts  
and calyx-lobes subulate, ~~leaf-like~~  
resembling the leaves. Corolla  
3 to 5 lines long; the tips of the  
ovate lobes inflexed in aestivation.



Stigmas filiform-linear, Capsule  
 nerved, acute at the base, and  
 with a projecting, obtusely conical  
 free summit not much shorter  
 than the body or aruate portion.  
 Seed very numerous, angled by  
 mutual pressure, ~~not at all~~  
~~marginated~~. often wedge-shaped,  
 not at all marginated.

1/25/25

5. Kadua parvula, Sp. Nov.

K. suffrutescens (pedalis et ultra),  
glaberrima; ramis gracilibus  
usque ad apicem foliosis; foliis  
coriaceis utrinque lucidulis  
conformibus <sup>(unciam longis)</sup> ovato-lanceolatis  
acutis, inferioribus petiolatis  
superioribus sessilibus, venis pri-  
maris inconspicuis; floribus  
paucis (5-9) in cymula  
terminali; calycis lobis  
lato-lanceolatis tubo corollæ  
dimidio brevioribus, capsula  
turbinata vertice sub-plana  
æquilongis; seminibus an-  
gulatis.

Hab. Low hills behind Wainai,  
 Oahu, Sandwich Islands.



Stems more or less lignescant  
 from a ~~thicker~~ woody subterranean  
 base, a foot or two in height, bran-  
 ching; the branches very leafy; the  
 internodes from 2 to 6 lines long. Leaves  
 about an inch in <sup>and 3 to 5 lines in breadth,</sup> length, nearly uni-  
 form, except that the lowest are  
 contracted at the base into a petiole  
 of a line or two in length, while the  
 uppermost are sessile by a broader  
 base, <sup>thick and</sup> coriaceous, <sup>in texture,</sup> and perhaps some  
 green and smooth both sides. The  
 primary veins and the reticulated  
 veinlets obscure, especially the former.  
 Lobes of the calyx triangular-lanceolate,  
 larger than the turbinate ovary, in fruit  
 becoming ~~max~~ enlarging to 3 lines in  
 length and becoming lanceolate, ~~and~~ foli-  
 aceous, and fully <sup>equalling</sup> the ~~length of~~ the broadly  
 turbinate, flat-topped, obscurely nerved  
 capsule. Corolla 4 or 5 lines long.  
 Stipules on each side subulate-pointed.

b. Kadua glaucifolia, Sp. Nov.

K. suffrutescens (pedalis), glaber=  
rima; ramis usque ad cymam  
sessile multifloram folioris;  
foliis subcoriaceis ovato-lanceo-  
latis (inferioribus lanceolatis)  
acute acuminatis florisque  
breviter petiolatis (summis ses-  
silibus) subtus glaucis pen-  
ninerviis; calycis lobis subulatis  
tubo corollae gracilis multoties  
brevioribus capsula fere  
hemisphaerica <sup>vertice</sup> ~~apice~~ convexa  
insecula paullo brevioribus;  
seminibus angulatis.

Itab. Mountains of Kauai,  
one of the Sandwich Islands.

This has the habit of the last (to which it is nearly related), and also of some Indian species referred to *Stedytis*. The slender stems are manifestly lignescant; the flowering branches leafy up to the semi, flat-topped, many-flowered cyme. Leaves from one to two inches long, 3 to 8 lines wide, tapering to an acuminate point, white-glaucous beneath, where the midrib is prominent, and the numerous primary veins and the reticulated veinlets are conspicuous; above the reticulation ~~only~~ is most evident. Stipules as in the last. Bractlets subulate. Lobes of the calyx subulate, longer than the ~~vary~~, about a line long, in fruit <sup>little increased</sup> ~~2 lines long~~ and shorter than the almost hemispherical nearly nerveless capsule. Corolla with a slender tube <sup>with</sup> an inch in length, and ovate or oblong lobes a line and a half in length, their blunt tips inflexed in aestivation. Stigmas linear, short. Seeds angled or flattened by pressure.



Schlecht.

7. Kadua Menziesiana, Cham. &

K. puticosa, ramosa, foliosa;  
 foliis coriaceis tenuiter venosis  
 ellipticis oblongisve breviter  
 petiolatis obtusis vel obtuse  
 acuminatis; cymis puberulis  
 dense paucifloris thyrsium  
 interruptum angustum saepius  
~~formantibus~~; efficientibus;  
 calycis lobis ovario brevioribus  
 e capsula globoso-obovata  
 vertice libero protuberante  
 demum deciduis; seminibus  
 angulatis. — Variat, foliis  
 nunc ovalibus nunc anguste  
 oblongis, floralibus ovatis sessili-  
 bus, junioribus subtus parce  
 pubescentibus vel glabris; cor-  
 ollis aut puberulis aut gla-  
 bris; vertice capsularum aut  
 convexo aut conico.

Hedyotis coriacea, Smith in Rees  
Cycl. no. 11.

H. conostyla, Gaudich, Bot.  
Voy Freyë, pt. 94.

Kadua Menziesiana, Cham. &  
Schlecht. l.c. p. 160; Db. l.c.

K. Smithii, Hook. & Arn. Bot. Beech.  
Voy. p. 86.

Oldenlandia conostyla, Db. Prodr.  
4. p. 428.

Tab. Sandwich Island: Hawaii,  
at various stations near the coast.  
Oahu; hills of Pearl River; a nar-  
row-leaved form. Found by  
Menzies, ~~and most~~ Gaudichaud,  
Chamisso, &c.

A variable, but pretty well-  
marked species, decidedly shrubby.  
Probably attaining the height of several  
feet. Leaves coriaceous, inclined to  
turn dark-colored in drying, one or  
two inches in length, generally elliptical

and an inch or less in breadth, in a narrow-leaved variety scarcely half an inch wide, the primary veins very slender, scarcely more conspicuous than the delicate reticulation: petioles evident even in the floral leaves, from one to 5 lines long. Stipules short-pointed. Inflorescence a <sup>small and</sup> contracted terminal cyme, subtended by a pair of roundish floral leaves, and usually with similar sessile clusters in the axils of one or two pairs of leaves below, generally cinereous (as is the calyx and often the corolla) with a fine pubescence. Lobes of the calyx triangular, barely half a line long, corolla about half an inch long when fully developed; its lobes broadly ovate, at length oblong, the tips inflexed in the bud. Style undivided; stigmas 2, shorter than in any other species. Capsule apparently with a fleshy epicarp when young, which at length becomes a ~~thin~~ mere pellicle. globular-obovate, 2 to 3 lines long, the free summit strongly convex or obtusely conical, varying from one ~~fourth~~ <sup>quarter</sup> to almost ~~half~~ <sup>three-quarters</sup> the length of the fruit, ultimately 4-valved at the top. Seeds compressed angled.

(the short calyx-lobes usually falling away before the fruit matures, leaving an annular scar.)



§ 2. Flores solitarii vel terni axil-  
ares, potiusve supra-axillares;  
seguimenti filiformes; calycis lobi magni.  
fructu mutante; corolla viridula  
limbo amplo, lobis acuminatis.  
sem atq; folia saepius mem-  
branacea, laxe penninervia;  
frutices foliosi.

8. Kadua acuminata, Cham. & Schlecht.

K. glaberrima; ramis gracilibus;  
foliis chartaceis lanceolatis  
sursum acutiusque acuminatis  
~~inferioribus~~ breviter petiolatis,  
junioribus subsessilibus; calycis  
~~lobis~~ <sup>lobis</sup> anguste lanceolatis;  
~~capsula~~ ex Cham.

Kadua acuminata, Cham. & Schlecht.  
L.c. p. 163; Hook. & Arn. Bot. Beech.  
p. 85.

Stat. Sandwich Islands, in the  
mountains behind Honolulu, Oahu.

Also gathered by Chamisso and by  
Lay and Collie, &c.

Leaves of a rather firm texture  
but hardly coriaceous, broadly lance-  
olate and tapering gradually into  
the slender acumination, 2 or 3 inches  
long, and from half to two thirds of an  
inch wide toward the base, which  
is obtuse, the petiole only 2 or  
at most 3 lines in length. Stipules  
subulate-pointed as in most species.  
Peduncles filiform half an inch or  
an inch long, solitary, rarely in  
pairs. Ovary turbinate, and acutely  
quadrangular as in all this section.  
Lobes of the calyx 2 or 3 lines long,  
twice the length of the ovary, linear-  
lanceolate, mostly shorter than the  
tube of the corolla. The latter is  
white or greenish, hypocrateriform, with  
the tube 4 lines long, not twice the  
length of the recurved-spreading  
ovate-lanceolate lobes, the slender  
tips of which are strongly induplicate

in the bud. We have not the fruit. According to Stokes and Arnott it is <sup>a</sup>globose <sup>(capsule)</sup>, but from the way it should resemble that of the following species. Chamisso describes it as obovoid, tapering into the peduncle, and [4-] nerved; also as drupaceous, the sarcocarp rather thicker than the endocarp, but at length dry and dehiscent. I suspect it hardly differs in this respect from the following species.



9. Kadua petiolata. Sp. Nov.

K. ramosa, glabra; foliis oblongo-lanceolatis oblongisve subito acuteque acuminatis basi plerumque acutis longius petiolatis membranaceis vel chartaceis laxe venosis; floribus saepe ternis; calycis lobis lanceolatis seu ~~triangulatis~~ triangulari-lanceolatis capsulam <sup>tate</sup> turbinatam subaequantibus.

Senecioia jasminia, Nutt. in Herb. Hook.

Var.  $\beta$ . ovalifolia: major; foliis ovali-oblongis, venis crassioribus.

Hab. Oahu, Sandwich Islands, near Waimai and Honolulu. Var.  $\beta$ . Mountains of West Maui.

This apparently plentiful species must have been confounded with R. acuminata; and indeed is distinguishable from it only or principally by its broader, more abruptly acuminate leaves, on slender petioles, and the broader calyx-teeth. The petioles are usually half an inch long when the blade of the leaf is 2 or 2½ inches long; the texture of the latter either thin membranaceous, or chartaceous. <sup>Reduncles one to three or trifid, distinctly supra-apillary.</sup>  
 3 to 12 <sup>lines long.</sup> Ovary turbinate with four acute decurrent angles alternate with the calyx-lobes. Corolla greenish; the slender tube 4 times long, longer than the oblong-lanceolate, acuminate, reflexed-spreading lobes. Style 2-cleft above; the divisions filiform-linear. Capsule 3 lines long, and nearly as broad at the depressed summit, thin-nish, 4-nerved, and with ~~as~~ <sup>as</sup>

as many less distinct intermediate  
nerves. Seeds siliiform, flat, wing-  
less.

While this approaches the pre-  
going species so much as to ~~render~~  
render the separation very doubt-  
ful, the variety ovalifolia, with  
its stronger-veined leaves 3 or 4 inches  
long and an inch and a half or  
more in breadth, or petioles 6 to 9  
lines in length, nearly approaches  
the following, thus connecting  
extremes which I dare not venture  
to refer to one species, although  
suspecting that this will be  
done hereafter.



10. Kadua grandis, Sp. Nov.

K. foliis amplis ~~ovalibus~~ oblongis ~~que~~ ovalibusque breviter acuminatis perspicue penninerviis longius petiolatis, junioribus ad costam venasque saepius pubescentibus; calycis lobis foliaceis ovato-lanceolatis capsula late turbinate acute 4-costata æquilongis; corollæ lobis tubum adæquantibus.

Hab. Sandrich Island; in the district of Puna, Hawaii, in fruit. Also gathered by Kuny on Hawaii, and a form of it on Lanai.

Apparently a rather large shrub, with stout branches, glabrous, except a fine hairiness which in

Some specimens occurs on the mid-rib and veins of the leaves. Stipules corpetiolar and forming a short truncate sheath, which is abruptly cuspidate on both sides. Leaves membranaceous or somewhat coriaceous, <sup>veiny</sup> oval or oblong, from 3 to 6 inches long and  $1\frac{1}{2}$  to 2 inches broad, tipped with a short and abrupt acumination, obtuse or mostly acute at the base, the petiole varying from half an inch to an inch in length. Inflorescence axillary or distinctly supra-axillary; peduncles solitary and single or trifid, 6 to 18 lines long, nodding in fruit. Ovary turbinate, 4-nerved as in the whole section. Lobes of the calyx foliaceous, oblong-ovate or ovate-lanceolate, 4 or at length 5 lines long. Tube of the corolla 5 or 6 lines long; the lanceolate <sup>acuminate</sup> lobes when developed of about the same length. Capsule

varying to hemispherical,  
 very broadly turbinate, 4 to 5 lines  
 long and of equal width at the  
 flat summit, acutely 4-ribbed,  
 or when young 4-angled, and with  
 inconspicuous intermediate nerves.  
 Seeds apparently flattened.

Houstonia, Linn.\*

1. Houstonia (Antis) Hymnifolia.

Hedyotis Hymnifolia, Ruiz & Pav.

Fl. Per. 1. p. 56, t. 88; H. B. K. Am.

Gen. Sp. 3, p. 391.

H. Hymnifolia, Cav. Lc. b. p. 54, t.  
 575

Antis (Ericotis) Hymnifolia, DC.  
 Prodr. 4. p. 432.

Hab. Obrajillo, Andes of Peru.

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\* In respect to the characters of  
Houstonia, Aldlandia, Hedyotis, &c.  
 see Proceedings of the American Academy  
 of Arts and Sciences, Sept. 1859,  
 4, p. .



349

Plum.,

Oldenlandia, Linn.

1. Oldenlandia paniculata, Linn.

Oldenlandia paniculata, Linn. i Burm.

Fl. Ind. t. 15, f. 1; Db. Prodr. 4, p. 427; Miq. Fl. Ind.-Bat. 2, p. 191.

O. multiflora, Db. l. c. O. debilis, Forst.,  
~~O. debilis, Forst., Prodr. Prodr. p. 10.~~

Hedyotis racemosa, Lam. Ill. t. 62, f. 2; Wright. 2c. Pl. Ind. Or. t. 312.

N. multiflora, dichotoma, & media,  
Bar. 2c. t. 573, 574.

Gerontogea racemosa, Cham. &  
Schlecht. in Linnaea, 4, p. 155.

Var. crassifolia: diffusa, humilis;  
foliis ovatis subrotundis spa-  
thulatisve carnosis.

Oldenlandia crassifolia, Bartl.  
in Db. Prodr. l. c.

Gerontogea racemosa, Cham. & Schlecht. quoad  
spec. & Radack.

Stat. Navigators' or Samoan  
and Feeje Islands. Var. Some-  
some and Nanna-levu, Feeje  
Islands. From Luzon, near Ma-  
nilla, an intermediate form.

The var. crassifolia is a mari-  
time state, with smaller and  
fleshy leaves, few-flowered pedun-  
cles, and usually larger capsules.  
Mr. Milne collected a narrow-  
leaved form of it at Futuna (Fee-  
jee Islands?), on the sea shore,  
and Mr. Wright found a similar  
form at the Lov Chor Islands.  
Bartling's O. crassifolia may be  
confidently referred to it, and per-  
haps Forster's O. debilis.

## 2. Oldenlandia tenuifolia, Forst.

Hab. Kewa, Feejee Islands.  
(Also collected by Prof. Harvey.) Baldera,  
Philippine Islands: a fragment.  
Rio Janeiro, Brazil.

The specimens are elongated,  
lax, apparently trailing, sparingly  
branched; the peduncles all one-  
flowered; the larger leaves 2 lines  
wide, tapering to each end; the  
corolla short as in O. Burmann-  
niana, ~~which~~ the Indian specimens  
of which <sup>our Oceanic plant</sup> ~~they~~ does not altogether resemble.  
But it does accord well with  
the specimens from Rio Janeiro,  
and with similar ones of O. herbacea,  
Dc. collected by Spruce on the Am-  
azon and by Fendler on the  
Isthmus (the length of the corolla  
of the latter (in ~~our~~ ~~present~~ later  
flowers) not affording any marked  
distinction.

## 3. Oldenlandia Salzmanni.

Antio (Panetos) Salzmanni, Dc.  
Prodr. 4, p. 433.

Hab. Rio Janeiro, Brazil. A smooth-  
ish and a villose-hirsute form.



Var. *caerulescens*: diffusa, humilis;

*lanceolata* per st =  
*lanceolata* *caerulescens*.

*Cellularia caerulescens* Mont. in

St. L. c. *Cell.* Mont. Prodr. p. 10?

Ital. *caerulescens* *lanceolata*



Stedyotis, Lin.

1. Stedyotis Cratogeomum, Spreng.

Cratogeomum Ambroicicum, <sup>majus,</sup> Rumph.  
Hort. Amb. b. p. 25, t. 10.

Oldenlandia verticillata, Lin.  
Mant. p. 40.

Stedyotis Cratogeomum, Spreng.

Pug. 2, p. 35; Bl. Prodr. 4, p. 420.

St. Lapeyroussii, Bl. l.c.; A. Rich. Voy.  
Botrolab. p. t. 23.

St. Venosa, Korth. in Ned. Kruid. l.c.;  
Miq. Fl. Ind. Bat. 2, p. 182.

Metabolos venosus; Blume, Bijdr. p.  
 991, Bl. Prodr. 4, p. 435.

Hab. Freeze Islands (Ovolae);  
 likewise collected by Harvey and Milne;  
 by the latter also at the Solomon  
Islands; and by McGillivray at  
Cape York, Tropical Australia.

The above synonyms are probably  
 correct, and more may be added.  
 The leaves, &c. resemble those of St.

Costata, R. Br.; but the calyx-teeth are larger, erect or connivent in fruit and as long as the latter. They are often 5 in number, one of them sometimes shorter ~~and~~ <sup>or</sup> imperfect; and the fruit, which is very hardly if at all septicidal, is occasionally trilocular.

2. Stedytis laevigata, Miq.

Stedytis laevigata, Miq. Fl. Ind.  
Nat. 2. p. 178

Metabolos laevigatus, ~~Bartl.~~ DC.  
Prodr. 4. p. 436. (Sclerococcus, Bartl.)

Stab. Luzon; in mountains near Baniós.

Smooth, or nearly so: the angles of the stem above somewhat ciliate. Teeth of the calyx not half the length of the ovoid-oblong, striate-nerved, at length bipartible fruit. Veins of the leaves slender, curved; the venlets loosely reticulated.

(Diplophragma)

3. Hedyotis { Cunningii, Sp. Nov.

H. ~~fruticosa~~<sup>?</sup> foliis membranaceis  
 laxe venosis oblongis seu ovato-  
 lanceolatis acuminatis basi  
 subacutis longiuscule petiola-  
 tis, junioribus subtus pubes-  
 centibus; stipulis hirtellis  
 truncatis utrinque in sub-  
 lam pinnato-3-5-fidam glandi-  
 feram ~~producentem~~  
 auctis; cymis laxifloris;  
 floribus pedicellatis; calycis  
 limbo 4-partito, lobis lineari-oblongis sub-  
 recurvis tubo suo hirsuto aequi-  
 longis, sinibus obtusis; corolla  
 brevi quadrifida fauce  
 arachnoideo-villosissima;  
 antheris inclusis; capsula  
 septicida.



Itab. Luzon, in the Majai-jai mountains, near Manila.  
(Same as no. 937, coll. burning.)

Apparently a large herb or suffrutescent plant; the younger parts more or less pubescent. Branches quadrangular, with the angles rounded and a groove on each face. Leaves 2 to 4 inches long, 12 to 18 lines wide, oblong, verging to ovate-lanceolate with a tapering acumination, membranaceous, loosely veined, at length glabrous above and glabrate beneath, but the midrib and principal veins more or less pubescent. Petioles slender, 5 to 9 lines long. Vaginate stipules very short, truncate, and produced on each side into a <sup>slender</sup> process, about 2 lines long,

furnished with one or two aris-  
 tiform appendages on each  
 side, ~~and~~ tipped with a <sup>small</sup> gland.  
 Cymes axillary, or terminating  
 short branches, <sup>(open)</sup> shorter than  
 the leaves: peduncle an inch  
 or less in length: pedicels fili-  
 form  $1\frac{1}{2}$  to 3 lines long. Bracts  
 subulate. Calyx a line and a  
 half in length; the tube turbinate,  
 the lobes linear-oblong, obtuse,  
 foliaceous, not carinate, above  
 recurved-spreading, fully half  
 the length of the corolla; the  
 sinuses narrow but acute  
 obtuse, <sup>extending almost to the ovary</sup> corolla almost  
 campanulate, about 2 lines in  
 length, <sup>four-lobed to the middle</sup> glabrous externally;  
 the <sup>oblong</sup> lobes valvate in aesti-  
 vation; the throat very villous  
 with long, curly, white  
 hairs. Stamens inserted in  
 the throat of the corolla; ~~the~~  
 filaments very short; anthers

oblong. Style somewhat exserted; Stigmas 2, oval, flat.

Ovary 2-celled: Placenta attached to the middle of the dissepiment, pluriovulate. Capsule a line and a half long, <sup>turbi-</sup> the summit not at all projecting ~~superiorly~~ or free, nate, coriaceous with a thin smooth epicarp, septicidal to the base, the cocci opening widely down the ventral suture. ~~Seeds not seen. Belongs to the section which contains~~ ~~*H. scandens*, Roxb.~~, apparently not splitting on the back. Seed oblong, flat, thin edged, with a central, ~~moderately~~ ~~for~~ slightly protuberant hilum.

The fruits are all old and dehiscent, the seeds mostly shed.



Salmon

1

Ord. Valerianaceae.

1. Valeriana, Linu.

1. Valeriana gracilipes, Blos.

Valeriana gracilipes, Blos in Gay  
Fl. chil. 3, p. 231.

Hab. Chili, near Santiago.  
A shrubby species, with small, ~~fleshy~~,  
rather fleshy, barely denticulate leaves.

2. Valeriana pinnatifida,  Ruiz & Pav.

Hab. Peru, near Lima; also  
Obrajillo, and Baños.

3. Valeriana interrupta, Ruiz & Pav.

Hab. High Andes of Peru, near  
Casa Blanca.

2  
4. Valeriana globiflora, Nair & Par.

Stat. Andes of Peru, above Baños;

a glabrous form. ~~Near Casa Grande,~~  
~~a possible~~ ~~glabrous~~ variety, with the stem a  
slender flowering stem a span high,  
and the inflorescence the yucca; the  
materials imperfect.

5. Valeriana lyrata, Vahl.

Var.  $\beta$ . foliis radicalibus longe petiolatis,  
oblongo-lanceolatis longe petiolatis,  
ovatifido-lacinatis, nunc inte-  
gerrimis.

Stat. Andes of Peru, near Baños.

This is probably a mere variety  
of Vahl's N. lyrata, with more  
slender and less divided radical  
leaves, some of them, indeed, entire,  
and the others merely lacinate. The  
slender, almost naked stem from a  
span to a foot and a half in height.



3

6. Valeriana coarctata, Ruiz & Pav.  
<sup>Abwe</sup>  
Stat. Banos, Andes of Peru.

The leaves are mostly narrower than in Ruiz and Pavon's figure, and the scape is naked. The fruit is <sup>lenticular</sup> ovoid, smooth and nerveless; the calyx-limb of five plumose setae which are ~~can~~ dilated at the base and connate into a short cup or crown, as in V. serrata.

7. Valeriana pycnantha, sp. nov.

V. herbacea - glaberrima, nana,  
multiceps e caudice crasso; foliis  
carnosis hand ciliatis, radicalibus  
lineari-spathulatis, caulinis 2  
vel 3 verticillatis <sup>oblongis sessilibus</sup> versus medium  
scapi simplicissimis 1-4-pollicaribus.

Scarioso-bracteatis  
floribus in capitulum densum  
~~oblongum~~ <sup>scarioso-bracteatum</sup> arcte congestis; ache-  
nis anguste ovato-oblongis <sup>lanceolatis</sup> ~~enerviis~~; <sup>lanceolatis</sup>  
pappo 5-7-radiato, setis basi  
comatis.

Hab. High Andes of Peru,  
"on the Alparamarca mountain  
peak." In fruit.

This is related to N. coarctata;  
but it can hardly be a more  
alpine and depressed variety of  
that species. The thick caudex,  
leaves, and scape are much more  
succulent, the leaves not ciliate,  
the flowers crowded into one com-  
pact head, <sup>which is</sup> either globular or  
at length cylindraceous, and  
fully half an inch thick. Basal  
leaves a single pair or a whorl  
of three, half an inch long; the

crowded radical ones an inch or more in length.

8. Nalericana globularis, Sp. Nov.

N. herbacea, <sup>glab</sup> depessa, caespitosa,  
glabra; caudice crasso; foliis  
omnibus radicalibus subcar-  
nos anguste spatulatis vel  
sublinearibus basi attenuatis  
integerrimis; scapo nudo 1-3-  
pollicari capitulum globosum  
scarioso-bracteatum gerentibus;  
achenis ovalibus <sup>latius</sup> facie enerviis; pappo  
10-12-radiato, setis basi connatis.  
Variat scapo brevissimo.

Ital. High Andes of Peru in  
the environs of Casa Blanca; in  
the fruit. A form "on the crest of  
the Andes" is more condensed, the  
scape very short.



Less fleshy than the preceding species, the thick rhizomata forming depressed tufts. Leaves about an inch long including the attenuate base or petiole, towards the apex a line and a half broad, thickish but plan, the midrib prominent underneath. Scape mostly slender and perfectly naked. Bracts of the globose head nearly as in *N. pyrenantha*, the achenia ~~are~~ broader and flatter, and the long, plumose setae of the pappus more numerous.

*N. Valeriana rhizocephala*  
 sp. nov.

N.

7  
9. Naleriana rhizantha, Sp. nov.

N. glabra; radice crassa fusiformi  
rosulam foliorum foliis rosu-  
latis spatulato-rotundatis car-  
nosis, capitulum florum arcte  
sessile depressum circumscissis,  
coronata; pappo cupulato bre-  
vissime 5-radiato, radiis denti-  
formibus <sup>nudis</sup> per anthesin involutis.

High Andes of Peru; "on the  
Alpamarca Mountain-peak.

"Succulent and said to be es-  
culent; root fusiform; leaves an inch  
in length and breadth, obtuse, sur-  
rounding a central cake of flowers,  
all even at the surface and densely  
congested". Pickering, adn. The speci-  
mens are scanty and in poor con-  
dition; but the principal characters  
can be made out. The bracts are

8  
scarious and not connate, <sup>and</sup> the  
flowers those of a Valerian, ex-  
cept that the setae of the pappus  
are reduced to short, tooth-  
like, <sup>naked</sup> processes on the border of a  
cup, like that of many Valerians,  
within which they are involuted in  
the usual manner. Whether they  
develop to any considerable length  
in the fruiting state is unknown;  
but it is unlikely that they become  
plumose. So that this species  
militates strongly against Persoon's  
genus Phyllactis, <sup>as</sup> recently restored  
and extended by Weddell.





1  
Ord. Calyceraceae.

1. Boopis, Juss.

1. Boopis anthemoides, Juss.

Stat. Rio Negro, North Patagonia.

An imperfect specimen, the flowers or fruits all fallen from the chaffy receptacle; but it appears to belong to this species.

2. Boopis crassifolia.

B. glaberrima; caule (spitham-  
eo ad pedalem) ramoso adscen-  
dente; <sup>ramis ad apicem usque foliosis;</sup> foliis carnis, caulinis  
sessilibus plerumque subamplex-  
icaulibus lanceolatis seu lingu-  
latis repando-denticulatis; cap-  
itulo breviter pedunculato; involu-  
cro subcarnoso <sup>alt. 5-7, pides</sup> ~~5-7-partito~~, seg-  
mentis oblongis; filamentis vix basi

(fore 2  
monadelphis; acheniis) pentap-  
teris; calycis lobis ~~fructus~~ ma-  
turiis scarioso-cartilagineis dorso  
eximie carinatis intus concavis  
marginibus tenui erosio-denticula-  
tis <sup>pl. m.</sup> ~~modice~~ difformibus, nunc  
late triangulari-oratis acutis  
brevibus, nunc ovato-lanceo-  
latis vel subulatis achenium  
dimidium adaequantibus; pa-  
lis receptaculi filiformibus apice  
spatulatis.

*Acicarpa crassifolia*, Miers in  
Ann. & Mag. Nat. Hist. ser. 3,  
6 (1860), p. 402.

Hab. Rio Negro, North Patagonia  
in sand on the shore. Maldonado,  
Uruguay, no. 1068 in herb. Hook.)



A rather stout, succulent, <sup>glabrous</sup> branching herb, a foot high; the root not seen; the branches leafy to the top. Leaves very fleshy, one or two inches in length, 3 to 5 lines in width, all sessile, and mostly partly clasping, repandly more or less toothed, the ~~short~~ salient teeth rigid, or somewhat spinulose; the <sup>lower</sup> leaves incline to spatulate or lingulate, the upper to linear-lanceolate; the latter acute or mucronate. Heads solitary terminating the stem and short branches. Divisions of the involucre resembling the leaves, 3 or 4 lines long in blossom, twice as long in the fruiting heads. <sup>at length becoming</sup> Tube of the corolla filiform, half an inch in length; the limb ~~cyathiform~~, deeply 5-cleft; lobes oblong. Stamens 5; filaments inserted upon the ~~thorax~~ orifice of the corolla, scarcely if at all monadelphous; but their dilated bases glandular. Thickened at

margin or a little below; these glandular portions answering to the five  
arcolae alternate with the stamens;  
anthers rather longer than the fila-  
ments, obtuse. Style filiform,  
exserted; stigma obtuse. Achenia  
3 lines long, turbinate, with five  
very acute and salient or winged  
angles, which are continued into  
the <sup>strong keel</sup> ~~parts~~ of the lobes of the calyx.  
The <sup>(calyx-lobes)</sup> are of the same texture  
as the wing-like angles of the  
achenium, are concave ~~or flattened~~  
on the inner face and strongly keeled  
on the outer, and vary in different  
flowers, or even on the same achenium,  
from broadly triangular or  
dilated-ovate and one-third the  
length of the achenium, to ovate-  
lanceolate and pointed or subulate  
and more or less elongated, sometimes  
nearly the length of the achenium,  
but generally shorter. Exterior  
paleae of the receptacle linear, fili-  
form, the inner almost setaceous,



with a dilated or spatulate tip,  
from 3 to 7 lines long, persistent.

Our specimens are mostly  
in fruit. I do not remember  
the state of Tweedie's specimen in  
the Hookerian herbarium, with which  
ours was long ago compared; but  
I suppose it bore <sup>the</sup> flowers only;  
else Mr. Miers could hardly have  
referred the plant to Acicarpus.

\* De Candolle <sup>will generally be thought</sup> ~~was~~ quite justi-  
fied in disregarding Pompos quali-  
fied recommendation to change Jus-  
sieu's name.

For ~~the~~ apparently the ovaries, and  
certainly the achenia, are not at  
all concreted, and the calyx-lobes  
are not spinescent but <sup>rather</sup> chaffy.  
I should imagine that Mr. Miers  
would, on the whole, have referred  
it to his genus Monocarpus.



6  
or else as I have done to Boopis.  
~~My~~ In view of the more or less  
diffused calyx-lobes, the mar-  
rochet become subulate and more  
indurated, I am led to think  
that even Boopis will at length  
be reduced to a mere section of  
the original genus Calycera.

## 2. Acicarpia. Juss.

### 1. Acicarpia spathulata. R. Br.

Hab. Rio Janeiro, Brazil.

Mr. Miers has adopted Mr.  
Brown's very qualified recommen-  
dation to change Jussieu's name  
to Acicarpa. It will generally be  
thought, however, that DeCandolle  
and others have rightly retained  
the original name, since carpha  
may as well refer to calycine

as to receptacular chaff, while  
<sup>substituted</sup> the name Acicarpa has no  
great advantage as respects ety-  
mological appropriateness.

---

Scabiosa maritima, Linn  
(S. Apicana, Ecklon) was picked  
up at the Cape of Good Hope.





Ord. Compositae,

Subord. I. Tubuliflorae,

1. Nermonia, Schreb.

1. Nermonia splendens, Less.

Stat. Brazil, near Rio Janeiro;  
a glabrate form. Organ Mountains;  
a variety with the vigorous shoots  
strongly angled, and the indumentum  
of the <sup>lower surface of the</sup> younger leaves ferrugineous,  
of the older, silvery.

2. Nermonia scorpioides, Pers.

Stat. Brazil, in the vicinity of  
Rio Janeiro: several varieties.

3. Nermonia myrtillifolia, Sp. Nov.

N. (Lepidaploa) scandens? fere glabra;  
ramis foliosis apice subscorpioides-  
capituliferis; foliis parvis ovato-ob-

longis seu ellipticis obtusis  
obsolete denticulatis subsimilibus,  
venis obscuris; capitulis simil-  
ibus folio aquilago stipatis;  
involucri 10-12. flori squamis  
lanceolatis seu linearibus  
omnibus cuspidato-acumin-  
atis; ovaris sericeis; pappi se-  
rie exteriori brevi squamellata.

Stab. Brazil, near Rio Janeiro.

This is probably common around  
 Rio Janeiro, and very likely already  
 described; but I cannot identify  
 it with any published species.  
 It is no. 546, of Martius's Herb.  
Flora Brasiliensis; it was also  
 collected by Gardner, and mixed  
 with his no. 5508, as mentioned  
 Benth. (V. platycarpa) <sup>flowering</sup>  
 The leaves may be likened to those of  
Vaccinium Myrtillus for size and



shape; but they are pale and obscurely cinereous; those of the somewhat scorpioid inflorescence 4 to 6 lines long, about ~~the length~~ equalling the sessile heads. Involucre campanulate; the coriaceous scales slightly arachnoid-pubescent, or at length glabrous; the outermost oblong-lanceolate, the inner linear, all sharp-pointed. Mature achenia not seen. Pappus white; the exterior short and squamellate.

4. Nermonia denticulata, DC.

Var. foliis fere integerrimis supra  
scabridis; cyma floribunda opposi-  
ori.

Stat. Maril, near Rio Janeiro.

Although the leaves are entire and roughish, this seems <sup>a form of</sup> to be De-  
Candolle's N. denticulata, or at least of  
Gardener's plant referred here by Benth  
in Lond. Jour. Bot. 4, p. 114.

5. Nermonia cinerea, Less.

Stat. Luzon, near Baños, and Singapore: the var. parviflora (N. parviflora, Reinw., Miq.). Luzon near Caldera and Manila; Hunter's River, New South Wales; and Tiffner, New Zealand (not noticed in Hooker's Flora of New Zealand): the var. stenophylla (N. cyanoprioides, Walp.); a very narrow-leaved form of this polymorphous species. Forster's Chrysocoma purpurea belongs to this species, according to the specimen in Herb. Lambert, now in the British Museum.

Cyanopsis, Blume

1. Cyanopsis pubescens, Blume.

Stat. Luzon, in the vicinity of Manila, &c.

5-

Monosis, DC.

1. Monosis insularum, Sp. Nov.

M. fruticosa, laxe ramosa; foliis  
oblongis acuminatis repando-  
dentatis basi cuneatis in pe-  
tiolem attenuatis puberulis  
supra glabris subtus ad cos-  
tam venasque cum ramis  
adpresso-tomentellis; capitulis  
corymbosis; pappi setis rigidis  
vix denticulatis, majoribus  
apice clavatis.

Hab. Tonga and Feeje Island,  
(No indication of the Stations, &c.)

A shrubby plant, with  
spreading or sarmentose branches;  
the younger ones whitened with a



*Hyman and the museum* (Cass.)

fine <sup>and</sup> close-pressed tomentum,  
Leaves alternate, membranaceous,  
oblong, ovate-oblong, or lanceolate-  
obovate with a slender acumination,  
coarsely repand-toothed, cuneate at  
the base, 3 to 5 inches long, one or two  
inches wide, glabrate ~~and~~ green  
above, minutely pubescent and  
cinereous beneath, the strong mid-  
rib and the rather prominent  
primary veins tomentulose like  
the branchlets. Petiole two thirds  
of an inch in length. Heads  
<sup>usually fascicled in threes or fives and</sup>  
rather numerous, <sup>collected</sup> in small and  
somewhat simple, naked, convex,  
corymbs or cymes, which are  
terminal or from the upper axils,  
much shorter than the leaves,  
on peduncles of about the length  
of the petioles: pedicels short or  
none. Involucre cylindraceous;  
the scales imbricated in three or four  
ranks, somewhat pubescent and  
glandular <sup>on the back and yellow-ciliate</sup>, ~~needleless~~, rather obtuse;

the outermost short and ovate,  
the inner oblong <sup>and varying to</sup> oblong-lan-  
ceolate. Flower solitary, at length  
nearly twice as long as the invo-  
lucre. Corolla purple; <sup>glabrous</sup> the linear  
lobes as long as the cylindrical  
tube. Anthers sagittate in the  
manner described by Steud., i.e.,  
~~the filaments inserted above their~~  
~~base~~ dorsally attached to the fil-  
ament above their base, the basal  
lobes obtuse <sup>and</sup> <sup>Pollen glabrous, echinulate.</sup> polliniferous, as  
in other Vernoniaceae. Style as  
in Vernonia, but its base not  
at all thickened, and girt by a  
narrow cupuliform nectary or  
disk. Acheneum cylindricous,  
slightly narrowed downwards, 10-  
ribbed, glabrous, beset with gran-  
ular atoms. Pappus of very  
stiff and rigid, obscurely dentic-  
ulate bristles, a few of the outer-  
most shorter and slender, another  
series slightly thickened toward the  
summit, the innermost rather



longer and stouter, nearly equalling  
the corolla, and very manifestly  
clavate - thickened upwards.

This appears to be a true  
congener of Morrisia Nightiana,  
Bl., the type of that genus. It  
stands in nearly the same relation  
to Synanthemon, Cass., that  
the section Eremosis does to Ner-  
monia.

9

Albertinia, Sprang.

1. Albertinia Brasiliensis, Sprang.

Albertinia Brasiliensis, Sprang. Syst.  
3. p. 355; Dc. Prodr. 5. p. 80; Seless.  
2c. Del. 4. t. 4.

Nervonia platycephala, Gardn. in  
Lond. Jour. Bot. 5. p. 212, no. 5508.

Symblomeria Baldoviniana, Nutt.  
in Trans. Amer. Phil. Soc. n. ser.  
p. 284, ex char.

Hab. Brazil, on the Corcovado,  
S. near Rio Janeiro.

Elephantopus, Linn.

1. Elephantopus scaber, Linn.

Hab. Luzon, near Manilla.

A softly strigose form, approach-  
ing the American E. tomentosus,

and yielding confirmation to the opinion of Schultze that the five species of the first section of the genus in DeCandolle's Prodr-  
mus are only forms of one.

2. Elephantopus riparius, Gardn.

Elephantopus riparius, Gardn., in  
Lond. Jour. Bot. 6, p. 426.

Hab. Brazil, in the Organ  
Mountains, near Rio Janeiro.

3. Elephantopus (Elephantosis) angusti-  
folius, Swartz.

Hab. Brazil; with the preceding  
species.

4. Elephantopus (Pseudelephantopus) spic-  
atus, Berch., Juss.

Hab. Luzon, near Manila, Prob-  
ably introduced from Tropical America.



11

Paranephelium, Poepp. & Endl.

1. Paranephelium uniflorum, Poepp. & <sup>Endl.</sup>

Var.  $\alpha$ . pinnatifidum: foliis lyrato-  
pinnatifidis, lobis inciso-dentatis, pagina superiore nunc  
levi nunc bullata.

Paranephelium uniflorum. Poepp.  
& Endl. Nov. Gen. & Sp. 3. p.  
42, t. 248; Wedd., Chlor.  
Ind. 1. p. 213.

Var.  $\beta$ . bullatum: foliis late ovatis  
basi truncatis seu obovatis  
inequaliter dentatis supra  
bullato-rugosis nunc glabris  
glabrisve nunc pilis visco-  
sis hirsutis, petiolis ad mar-  
gines saepe quandoque den-  
ticulatis.

Paranephelium bullatum, Gray,  
ind.; Wedd. l. c. p. 214.

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Var.  $\gamma$ . ovatus: foliis <sup>subrotundis</sup> ovatis / obovatis  
vel subspathulatis inaequaliter  
dentatis, rarius basim versus  
incisis, ~~supra levibus et~~  
~~glab~~ pagina superiore  
levi et glaberrima, petio-  
lo nunc denticulato.

Paranephelium ovatifolium,  
Gray ined. in Herb. Hook,  
& Mus. Par.

P. ovatus, Wedd. l.c. p. 214,  
t. 37.

Hab. Andes above Baños,  
Peru. ( $\alpha$  &  $\gamma$ .); var.  $\gamma$ . also at Casa  
Bancha; and var.  $\beta$ . at Alcamarea,  
in the high Andes.

Mr. Weddell, as well as  
myself, had distinguished these  
three forms as species; but an atten-  
tive examination of various speci-  
mens leads to the conclusion that  
they are all forms of one, differ-

ing only in foliage, ~~and~~ pubes-  
 cence, and the like. In all the  
 leaves are white-tomentose beneath,  
 the tube of the ligula hirsute; the  
 outer scales of the involucre spat-  
 ulate, or even obovate, and ob-  
 tuse; the inner ones lanceolate or  
 linear and acute. The bullation  
 of the leaves is evidently variable,  
 and the shape of the leaves is not  
 reliable for a specific character,  
 especially where <sup>occasional</sup> the denticulati-  
 ons of the narrow margins of the  
 petiole show a tendency toward  
 a lyrate ~~leaf~~ lamina. In  
 addition to the stations recorded  
 by Weddell, the typical *P.*  
*uniflorus* was gathered by Rutland  
 on the high Andes in the south-  
 western part of Peru; the var. *bullatus*  
<sup>(I believe)</sup> at Chacaboyas by Matthews;  
 and the var. *ovatus* by McLean  
 (Hb. Hook.).



Liabrum, Adans., Less.

1. Liabrum lyratum, Sp. nov.

L. herbaceum; foliis supra hirsutiusculis glabratissime subtus arachnoideo-tomentosis, caulibus lyrato-lobatis petiolis basi auriculatis ~~conis~~ plerumque connatis, summis sessilibus basi dilatata connatis, bobo terminali maximo subinciso et repando-denticulato; pedunculo terminali elongato + ~~3-cephalo~~; mono-oligocephalo; involucri squamis oblongis substriatis; pappo e setis paleolisve rigidis inaequalibus, exterioribus dimidio brevioribus.

Alibum liabroides, Less.

Syn. p. 152?

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Stat. Obrajillo, Andes of Peru.

The character is taken from an imperfect specimen in this collection and from one in the Peruvian collection of Matthews, no. 3057. In both the heads are injured by insects so that the whole structure cannot well be made out. I suspect, however, that they may be identical with the Alibum liaboides of Lessing, incompletely characterized from fragmentary specimens gathered by Humboldt, and left unnoticed by Kunth.

If this be so, the genus Alibum cannot stand upon the characters indicated. For the pappus is <sup>apparently</sup> ~~really~~ similar in the disk and ray, and <sup>the exterior</sup> not really coro=

~~Scabum, affinis, det.~~

1. ~~Scabum, det. det.~~

~~Scabum, det. det.~~  
~~to det. det.~~  
~~det. det.~~



uniform. And the plant nearly  
accords with Liatrum, in the extended  
sense, or with Andromachia sect.

Pleionactes of DeCandolle, except  
that the bristles of the pappus are  
more stout and rigid, and also  
fewer. They are fragile, however,  
as well as deciduous, and some-  
times break off near the base;  
and the margin of the summit of  
the achenium, on which the  
pappus is inserted, appears somewhat  
like a short crown. The bristles  
form about two series, the outer  
ones more subulate, and barely  
half the length of the inner. Prae-  
ny minute on the angles. Ache-  
nia oblong-oval, thick, obscure-  
ly angled, smooth and glabrous,  
with a depressed terminal areola.  
Whether the receptacle is naked or  
finetubilliferous cannot be made out.

Head <sup>large</sup> solitary or <sup>naked</sup> on a peduncle as long as the leaves, or two or three short-peduncled ones on the prolonged and naked summit of the stem. Scales of the involucre imbricated in about three series, 3 or 4 lines long, more or less evidently nerved or striate, the outer ones oblong and obtuse or acute, the inner varying to lanceolate and mostly cuspidate-acuminate. Rays 30 or more; ~~ligules~~ ligules linear, yellow, half an inch long, toothed at the extremity, towards the base minute underneath, as well as their base. Baseline leaves from 3 to 7 inches long including the petiole; the terminal lobe large and deltoid, acute, repand and denticulate, often incised or toothed; the lateral lobes much smaller, about two pairs. The uppermost pair of leaves sessile by the connate-auricate base, above which

it is contracted, then deltoid-  
dilated or somewhat hastate,  
or with a pair of small lateral  
lobes. Root and base of the stem  
not seen; but the plant is prob-  
ably a low herb, ~~about~~<sup>only</sup> a foot  
or two in height. The young  
stem is clothed with a thin, floc-  
cose, and deciduous tomentum, like  
that of the lower surface of the  
leaves; under this it is gla-  
brous or ~~to~~<sup>near</sup> the summit  
glandular-pubescent.



11

Piqueria, Cav., Gardn.

1. Piqueria artemisioides, H.B.K.
2. Piqueria floribunda, D.C.
3. Piqueria quinqueflora, Cass.

Stat. Peru, between Lima and Obrajillo.

Ageratum, Linn.

1. Ageratum conyzoides, Linn. &

Var. β. muticum; pappi paleis omnibus  
muticis obtusis aut 1-2 longiori-  
bus subaristatis.

Stat. Madeira, Rio Janeiro,  
Heije Islands, Hawaii, Sandwich Is-  
lands, St. Helena, Southless of

American origin, but now dis-  
persed over the warmer parts of the  
world. The variety was gathered at  
Lima, Peru, except in the complete  
or partial absence of the awns  
of the pappus it does not differ  
from some of the common forms of  
A. conyzoides. Regel's A. brachy-  
stachyum is probably the same  
thing.

Adenostemma, Forst.

1. Adenostemma viscosum, Forst.

Adenostemma viscosum <sup>A.</sup> glutinosa  
Dc. Prodr. 5, p. 110.

Lavenia erecta & L. glutinosa, Gandich.  
Bot. Voy. Freyc. p. 470, 471.

Hab. Tahiti, Society Islands. Upo-  
lu and Manna, Samoan Islands.  
Fiji Islands. Oahu, Sandwich Is-

and.

Forster's and DeCandolle's A. viscosum is only a form of DeCandolle's A. glutinosum with thinner and narrower leaves, probably growing in more shady places. To this common Polynesian <sup>Adenostemma</sup> ~~species~~ a great number of nominal species are probably to be reduced.

2. Adenostemma latifolium. Don?

Lavenia macrophylla, Blume, Bijdr.  
p. 905. Adenostemma macro-  
phylla, DC. l.c.?

Hab. Tania, Feeje Islands.

This is perhaps only a variety of the preceding with larger leaves (broadly ovate and 5 or 6 inches long), and nearly smooth achenia. It accords pretty well with what I had named A. latifolium from the Socorro



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Islands, with Burnings's no. 1749 from  
the Philippine Islands, and with  
a Himalayan specimen, collected by  
Edgeworth, and named A. latifolium  
by Sir Wm. Hooker.

Stevia, Cav.

1. Stevia tracheloides, Db.?

Stab. Peru, <sup>at</sup> near Baños, Obrajillo,  
Hs.

Accords very well with Berlandier's  
plant from Toluca, except that the  
leaves are smaller. ~~Perhaps it is also~~  
~~Stevia, Lagasca~~ The pappus is  
minute.

2. Stevia oligocephala, Db.

Stab. Brazil, in the Organ  
Mountains near Rio Janeiro.

Bip.

3. Stevia melissae folia, Schultze,  
Eupatorium melissae folium, Lam.  
Dict. 2. p. 411.

Mikania melissae folia, Willd. Spec.  
3. p. 1747.

Nothites latifolia, Cass. Dict. Sci.  
Nat. 35, p. 163.

Nothites melissae folia, DC. Prodr.  
5. p. 186.

Stevia subcorymbosa, Lag. Nov.  
Gen. Spec. p. 27; Spreng. Syst.  
3. p. 448; DC. Prodr. 5. p. 122.

Stevia puberula, Hook. Bot. Misc.  
2. p. 225.

S. dodecachata, DC. Prodr. 5. p. 122.

S. melissae folia, Schultze, Bip.  
in Linnaea, 25. p. 291, nom.  
tantum.

Var.  $\beta$ . glabella; foliis basi angus-  
tatis cuneatisve, caulinis pl. m.  
petiolatis.

Nothites petiolata, Cass. l.c.;  
DC. l.c.

Stevia petiolata, Schultze, l.c.  
(in Linnaea,

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Hab. Obrajillo, Peru: the  
variety with petiolate leaves.

This is evidently the Stachys  
petiolata of Cassini, and I pre-  
sume no more than a variety  
of his S. latifolia, for which De-  
Candolle restored the ancient specific  
name of melissofolia. The brief  
character and habitat of Lagasca's  
Stevia subocto aristata point to  
this species; although all except the  
"puppo 7-9- aristato: Hab. S. ovata  
simillima" of Lagasca is sup-  
plied by Sprengel, probably by trans-  
ference from S. ovata, on the strength  
of the asserted resemblance. ~~Stachys~~  
But this specific name, though  
the prior one in the genus, is rather  
inappropriate, as well as sesquipedali-  
an, the rows of the puppos being  
usually ten or eleven, or more; so  
it will give place to the much earlier,  
Lamarckian name, which has



already been suggested by Schultze,  
when he ~~proposed~~ ~~detected~~ discovered  
that Cassini's genus Arthites con-  
sists of multiaristate Stevia.

Hooker's S. puberula came from  
Chajillo, and is not specifically  
distinct from our plant; and  
DeCandolle's S. dodecachata is  
putty clearly of the same species.

4. Stevia satureiaefolia, <sup>Bip.</sup> Schultze,  
Eupatorium satureiaefolium, Lam.!  
<sup>Dict. 2. p. 411. Willd. Spec. 3. p. 1747.</sup>  
Mikania satureiaefolia, Willd. Spec. 3. p. 1747.  
Arthites angustifolia, Cass. l.c.,  
et N. satureiaefolia, Sb. l.c.  
Stevia multiaristata, Spreng.  
Syst. 3, p. 449; Hook. & Arn.!  
Comp. Bot. Mag. 1. p. 238.

Hab. Rio Negro, North Patago-  
nia.

Here the identification is perfect  
and the older name should be restored.

The auras, or rather setae, of the pappus are barbellulate, and vary from 15 to 22 in number; there are often a few shorter and squamulate ones, or short puleae, and occasionally one of the exterior flowers has a short and puleaceous pappus without any setae. No doubt this and the allied species are inseparable from Stevia.

Nothites breviflora, the remaining species of Cassini, is evidently Stevia aristata, Don, and probably S. Neronea, DC., as Hooker and Arnott suggest.

### Conoclinium, DC.

#### 1. Conoclinium betonicaforme, DC.

Hab. Brazil, in the Organ Mountains near Rio Janeiro.

Alfred Russell Wallace: ~~Evolution~~  
~~The Canine Brain in Relation to~~  
~~Intelligence.~~



Sp. Nov.

2. Conoclinium subglutinosum,

C. glabrum; caulibus basi suppre-  
tiosis; foliis longe petiolatis  
<sup>late</sup> deltoideo-oratis acuminatis  
serratis membranaceis ~~3-5~~  
triplici-quintuplinerviis utrin-  
que subglutinosus; corymbo  
polyccephalo; involucri squamis  
~~bicarimatis~~ <sup>(10-13)</sup> dorso subglutinosus  
bicarimatis, exterioribus oratis,  
intimis spatulatis acutis;  
achenio glaberrimo.

Hab. Brazil, near the base  
of the Organ Mountains.

This may have been des-  
cribed as an Eupatorium, but I  
cannot identify it. It some-  
what resembles Gardner's Eupato-  
rium nudum, from the same

district. In habit and foliage  
it resembles E. aegeratioides; but  
the stems are evidently woody at  
the base, and the receptacle is  
acutely conical. Petioles slender,  
one or two inches in length, not  
much shorter than the broadly  
ovate blade, which is <sup>very</sup> obtuse or  
truncate but not at all cordate  
at the base, and moderately toothed.  
Ovary <sup>naked, rather dense,</sup> pedunculate, <sup>where</sup>  
campanulate. 2 lines long, a  
little shorter than the flowers; its  
principal scales remarkably broad.  
Flowers 25 or more in the head.  
Corolla white or flesh-color. Pap-  
pus, achenia, &c. as in the genus.

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Stebelinium, St.

1. Stebelinium macrophyllum, var. rivale, <sup>St.</sup>

Stab. Brazil, in the Organ Mountains  
near Rio Janeiro.

Campuloclinium, St.

1. Campuloclinium macrocephalum, St.

Stab. Base of the Organ Mountains,  
near Rio Janeiro, Brazil; in marshes.

To this species Eupatorium Doni-  
annum, Hook. & Arn. in Comp. Bot. Mag.,  
p. 243, is to be referred. Some of the  
lower leaves are opposite. The receptacle  
is convex-conical and papillose-serrulate.  
Setae of the fuscous pappus between  
scabrous and barbellate.



Eupatorium, Tourne.

1. Eupatorium conyzoides, <sup>(Vahl;</sup> var. Maximiliani.

Eupatorium lineatum, "Hook. & Arn. in  
Comp. Bot. Mag." ex herb. Hook. ! forte  
E. conyzoides? Op. cit. i. p. 240.

E. Maximiliani, DC. Prodr. 5. p. 143.

Stat. Brazil, in the vicinity of  
Rio Janeiro.

I am confident that E. Max-  
imiliani is no more than a form  
of E. conyzoides, at least of the  
species figured by Schrank under  
this name, to which E. divergens,  
Less. must also belong. The striated  
scales and whitish coriaceous scales  
of the involucre,  
with very obtuse subherbaceous  
tips, mark the species. Of E. Max-  
imiliani it can only be said that  
it is a form with rather larger  
heads and usually more numerous

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flowers, and with narrower and  
more serrated leaves. E. cony-  
zoides, var. glabrescens, of Steud.,  
in the Botany of the Herald, can-  
not well be of this species, but is  
nearer E. odoratum (notwithstanding  
the obtuse scales), probably Deban-  
dolles' var. Cubense.

2. Eupatorium propinquum, DC.?

Hab. Rio Janeiro, Brazil. An  
imperfect specimen.

3. Eupatorium persicifolium, H.B.K.

Eupatorium persicifolium, H.B.K., Nov.  
Gen. & Spec. 4, p. 130.

E. compactum, Benth. in Bot. Voy.  
Sulph. p. 112.

Hab. Obrajillo and Culluay, ~~Andes~~  
Peru. Also gathered in Peru by Dombey,  
and by Matthews (no. 566), and at Iruaman-  
tango by Barclay.

Leaves larger than those described by Kunth, being from  $3\frac{1}{2}$  to 6 inches in length, and from one to nearly two inches in breadth, all rounded at the base. Involucre half an inch long. The heads in Benthian's E. compactum are smaller than in Humboldt's plant and our own, but otherwise the same. The species is nearly allied to E. arbo-  
reum, A.B.K., and also to E. buddle-  
ifolium, Benth., which is certainly E. discolor, DC. and probably E. salicinum, Lam.; but the leaves are not acute at the base, and the involucre is more imbricated.

#### 4. Eupatorium Salvia, Colla.

Eupatorium reticulatum, Hook. & Arn. Bot.  
Beech. Voy. p. 29, & Comp. Bot. Mag.  
1. p. 240, non Desv.

Hab. Chili, in the vicinity of Valparaiso.



5. Eupatorium glomeratum, DC.

Stat. Obrajillo, Peru, where it was also gathered by Matthews, (~~Herb. Hook.~~)

The solitary specimen is an imperfect one; but, with the aid of one from Mr. Matthews, in the Hookerian herbarium, it is clearly ascertained to be DeCandolle's E. glomeratum, which Stanke therefore probably gathered in the Peruvian rather than the Chilean Andes. The leaves are all very unequally cordate at the base.

6. Eupatorium Gaudichaudianum, DC.

Eupatorium Gaudichaudianum, DC. Prodr.  
5, p. 448.

~~Eupatorium~~ vagum, Gardn. in Hort.  
Lond. Jour. Bot. 5, p. 477.

Stat. Brazil, in the vicinity of Rio Janeiro. Probably common, as it was collected by Sellow and Pohl, as

~~all removed at the base, therefore~~  
~~hull are with long.~~

well as by Gaudichaud and  
Gardner. From our specimen  
one would suppose the stem to  
be herbaceous.

7. Eupatorium glabrescens <sup>(l.c.)</sup> DC.

Stat. Organ Mountains near  
Rio Janeiro, Brazil. A single speci-  
men.

8. Eupatorium laeve, DC. <sup>(l.c.)</sup>

Stat. Vicinity of Rio Janeiro,  
Brazil; where it is evidently common,  
having been gathered by most  
collectors.

9. Eupatorium glabrum.

Bulbostylis glabra, DC. Prodr. 5, p.  
139.



Hab. Brazil, in the vicinity of Rio Janeiro, where it was also gathered by Naudin, Libb., Bur-  
chell, and Gardner as well as by Gaudichaud.

As long since remarked (in Plante Wrightiana, l. p. 87) this and the nine additional ~~species~~ Brazilian species described by Gardner, having pentagonal achenia, <sup>(without intermediate ribs,</sup> are true Euporia. The present species is clearly allied to E. glabrisculum and E. Naudinianum.

10. Eupatorium glechonophyllum, Less.

Hab. Chili; abundant in the vicinity of Valparaiso.

11. Eupatorium Sternbergianum <sup>Ag.</sup>

Hab. Peru, in the vicinity of Obrajillo.

12. Eupatorium valliscola, Db.

Hab. With the preceding. A single, incomplete specimen, with accords pretty well with the character of this species.

13. Eupatorium decipiens, Hook. & Arn.

Eupatorium decipiens, Hook. & Arn. in Comp. Bot. Mag. 1, p. 240, & 2, p. 251.

E. foliosum, Db. Prodr. 5, p. 174.

Ophryosporus triangularis, Meyen, It. 1, p. 402; Walp. Kil. Meyen, p. 256.

Hab. Peru, in the vicinity of Yanga.

A very imperfect specimen, but apparently the same as the Chilean plant, — for which the older name is preferred. A close ally of this, and equally inseparable from Eupatorium, notwithstanding the

barbellate peta of the pappus,  
is E. paradoxum, Hook. & Arn. l.c., the  
Whites baccharidea, DC.

Mikania, Willd.

1. Mikania diversifolia, DC. ? &
2. Mikania umbellifera, Gardn.

Hab. Brazil, near Rio Janeiro.

3. Mikania laxa, DC.

Hab. Peru, at Callao, Lima,  
and Yanga.

The panicle is smooth; otherwise  
the plant accords with DeCandolle's  
character of this species. Some of the  
leaves incline to repand-crenate. Probably  
it is also M. variabilis of Meyen and Walpers.



32  
4. Mikania volubilis, Willd.

Hab. Luzon, in the mountains  
near Baños.

This is nearly allied to the North  
American M. scandens, as Willde-  
now and DeCandolle remark.

39

Chilistrichum, Cass.

1. Chilistrichum amelloides, Cass.

Chilistrichum amelloides Cass. Bull.  
Philom. & Dict. Sci. Nat. 8. p. 576;  
(excl. var. r.)  
Dc. Prodr. 5. p. 266; Hook. 2c.  
Pl. t. 485; Hook. f. Fl. Antarc. 1,  
p. 304.

Amellus diffusus. Forst. Bern. Goett.  
9. p. 39.

Aster Magellanicus, Spreng. Syst. 3,  
p. 526.

Hab. Orange Harbour, Fuegia.

A characteristic shrub of Patagonia, Fuegia, and in the Falkland Islands, where, according to Dr. Hooker, it is the tallest dicotyledonous plant, except the rare Veronica. It attains the height of four or five feet, and forms a brushwood along the banks of streams. The genus differs from Eu-

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rybia merely as do the paleate  
from the epaleate species of Corethro-  
gyne; ~~and the~~ from Diplostegium,  
of the Andes, by the same mark,  
and by the simple pappus.

Eurybia, Cass.

1. Eurybia (Shavvia) furfuracea, DC.

Aster furfuraceus, A. Rich., Fl. N.  
Real. p. 246.

Eurybia furfuracea, DC. Prodr.  
5, p. 1267; Hook. f. Fl. N. Real. 1,  
p. 1117.

Haxtonia furfuracea, A. Cunningham, Prodr.  
N. Real. ~~Prodr.~~

Hab. New Zealand at Waiya-rum  
Bay, &c.

I believe that this is also, in  
part, the Solidago arborescens of Forster.



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(in which DeCandolle's genus Steiractis  
was founded),  
having been confounded by him  
with the nearly related E. nitida,  
Hook. f., or Shauvia arborescens of  
Raoul. Both are manifest con-  
geners of E. Forsteri, Hook. f. (Shauvia  
paniculata, Forst.) which was not  
met with by our Naturalists.

2. Eurybia Solandri, Hook. f. l.c.  
Stat. Waiyaruru Bay, New Zealand.

The achenia, said by Dr. Hooker  
to be quite smooth, are not ma-  
ture in our specimens, but the im-  
mature ones and the ovaries are  
sparsely hairy.

Aster, Tourn.

1. Aster Vahliei, Hook. & Arn.

Aster Vahliei, Hook. & Arn. in Comp.  
Bot. Mag. 2, p. 49; Hook. Lect. 486  
Hook. f. Fl. Antarc. 2, p. 305.

Erigeron Vahliei, Gaudich. <sup>Gay, Fl. Chil. 4, p. 28,</sup> Bot. Freye.  
Voy. p. 135; DC. Prodr. 3, p. 295; <sup>Gay, Fl. Chil. 4, p. 28,</sup>  
E. glabrifolium, DC. l. c. p. 287; <sup>Gay, Fl. Chil. 4, p. 28,</sup>  
<sup>Mod. chil. And. 1, p. 193.</sup>

Stat. Orange Harbour, Fregia;  
extending to Chili, (One of the species am-  
biguous between the Alpigenous Asters and  
Erigeron.)

2. Aster (Asterastrum)

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Tripolium, Nes.

1. Tripolium conspicuum, Lindl.

Tripolium conspicuum, Lindl. in Db.  
Prodr. 5, p. 254; Gay, Fl. Chil. 4, p. 15.

• Stat. Chili, in the vicinity of  
Santiago. Peru, at Callao and  
Lima.

The root is <sup>(really)</sup> ~~not~~ perennial, as is  
stated in the Flora Chilensis. I have  
seen specimens from Lima exactly  
like those from Chili. But those  
of this collection have mostly smaller  
heads, ~~and~~ more slender <sup>and</sup> glabrous achenia,  
and ~~slender~~ narrower and pointed  
involucral scales.

2. Tripolium divaricatum, Nutt., var.  
Sandwicense.

Aster subulatus, Less. in Linnaea, 6, p.  
120, non Michx. (p. 254.)

Tripolium subulatum, var. Db. Prodr. 5, p.



44  
Erigeron multiflorus, Hook. & Arn.  
Bot. Beech. Voy. p. 87, 4 spec. in  
~~auth.~~ herb. Hook.

Hab. Sandwich Islands; on the  
Coast of Oahu and Kauai.

Erigeron, Linn.\*

1. Erigeron chionophilus, var.  
sericeum, Wedd.

Erigeron chionophilus  $\beta$ . sericeum,  
Wedd. Chl. And. 1. p. 191.

Hab. Andes of Peru above Baños.

2. Erigeron hieracioides, Wedd.

Erigeron hieracioides, Wedd. Chl. And.  
1. p. 194, t. 34.

Hab. Andes of Peru, above Baños.

\* Erigeron liatroides, Turc., if it be,  
as I think, a plant of Drummond which  
I formerly examined in herb. Hook., is a  
congener of E. decurrens, DC., and a  
synnema.

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Cullumay, &c. A dwarf state of  
the species, <sup>with</sup> the flowering stems  
scarcely exceeding the rosulate  
radical leaves, the cauline leaves  
somewhat spatulate and ~~three~~  
three-toothed at the truncate  
~~apex~~, Mr. McLean also  
gathered it in the Peruvian  
Andes.

3. Erigeron leptorhizon, DC.

Erigeron leptorhizon, DC. Prodr. 5.  
p. 288.

Var.  $\beta$ , canescenti-villosum vel hirsutum;  
caulibus basi lignescentibus de-  
cumbentibus.

Var.  $\gamma$ , gracile, hirsutum; foliis par-  
vis integris narove dentatis, imis  
spathulatis, summis fere lineari-  
bus.

Hab. Coast of Peru: var.  $\beta$ .  
on the island of San Lorenzo: var.  
at Lima.



Donner's specimens are young, flowering directly from the seed, and with a slender root. Ours are more pubescent, even caespitose, and with a stouter root, &c. in the var.  $\beta$ , even lignescens, as is the base of the decumbent stem, but probably of only annual duration. They are older specimens, indicated by Donnell. The prophylls is simple. The var.  $\gamma$ , having smaller heads, and much smaller and narrower, mostly quite entire leaves (the radical ones 5 or 6 lines, the upper cauline 2 or 3 lines, in length), is ~~from~~ perhaps a distinct species; but I think not. Both forms were collected at Lima by Cunningham, no. 1083.

4. Erigeron Berteri anum, Det. l.c.

Erigeron canescens & E. stenophyllus  
var.  $\beta$ . Hook. & Arn. in Comp. Bot.  
Mag. 2, p. 49, 50 & p. 254

Stat. Chili; common around Valparaíso.

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This species is well described by Hooker and Arnott, but not by De Candolle, whose character is adopted without correction in the *Flora Chilena*.

5. Erigeron andicola, Sl.

Erigeron andicola, Sl. Prodr. 5, p. 287; Wedd. Chl. And. 1, p.

<sup>192</sup>  
E. Gayanum, Remy in Gay, *Fl. Chil.* 4, p. 25, } Wedd. Chl. And. 1, p. 227.  
<sup>l.c.</sup>

Aster Gayanus, Sl. Prodr. 5, p.

<sup>227</sup>  
A. Gilliesii, Hook. & Arn. Comp. ~~to~~ Bot. Mag. 2, p. 49?

Stat. Andes of Chili, above Santiago. A poor specimen, the flowers all fallen from the solitary heads.

47  
6. Erigeron palustre, Gardn.  
Erigeron palustre, Gardn. in Hook.  
Lond. Jour. Bot. 4, p. 123.

Stat. Organ Mountains near Rio  
Janeiro, Brazil.

This is probably not distinct  
from E. sulcatum, DC. (not of  
Neyen); and ~~belongs to the~~ <sup>might be ranked in</sup> same  
section of the genus as the North  
American E. speciosum, W.

7. Erigeron (Cantus) triplinerve.

Coryza tripplinervia, Less. in Lin-  
nea, 6, p. 137; DC. Prodr. 5, p. 377.

Stat. Brazil, in the Organ Moun-  
tains near Rio Janeiro. A single,  
insufficient specimen.



8. Erigeron (lanceus) chilense,  
Don, & Steud.

Gnypa Chilensis, Spreng.; Less.;  
Ob. Prodr. 5, p. 378; Nemz in  
Fl. Chil. 4, p. 70.

G. longifolia & G. procera, Desf.  
Cat. Hort. Par.

G. Scariosaefolia & G. Austrochiliana,  
Nemz, l.c.

Hab. Brazil, near Rio Juncei-  
ro, and at the base of the Oreana  
Mountains.

9. Erigeron (lanceus) artemisioides,

Gnypa artemisioides, Meyen & Walp.  
Rel. Meyen. p. 262.

Hab. Andes of Peru above Baños.

Allied to G. pinnatus Turez.,  
but manifestly distinct. The stems  
are decumbent, about a foot in length.

Leaves deeply pinnatifid; the lobes 4 or 6, very obtuse, oval or oblong, mucronate. Heads forming an interrupted spicate raceme or condensed panicle; the pappus rufoous. A second specimen has fewer, and consequently rather larger heads, with the pappus barely fulvous, much longer than the female flower, the corolla of which is tubular with a toothed unilateral tip.

9. Erigeron (bentus) histellum DC.

Erigeron histellum, DC. Prodr. 5, p. 290; Kemy in Gay Fl. Chil. 4, p. 30.

E. spiculatus, Hook. & Arn. Comp. Bot. Mag. 2, p. 49, pro parte, non Bot. Beech.

E. sulcatum Meyer, H.; Walp. Bot. Meyer. p. 260.

Coryza Larrainiana & C. andina, Kemy in Fl. Chil. l.c. p. 71, 73.

Hab. Chili, in the vicinity of Valpa-  
raiso.

A well-marked, low species, with the stems branching from a ligneous and apparently truly perennial root, bearing a few loosely corymbose and rather large heads.

10. Erigeron (canthus) linifolium, Willd.  
~~Bonariense, Linn.~~

Coryza ambigua, DC. Fl. Fran.  
+ Prodr. 5. p. 387.

C. sinuata, Ell. Sk. Bot. S. Car. 2,  
p. 323.

Erigeron Bonariense, DC. Prodr. 5. p. 289, pro parte, ~~for~~  
~~seems in Br. pl. 1861, p. 217.~~

Itab. Madeira. Chili, near Val-  
paraiso. Tippona, New Zealand: probably  
of recent and local introduction, as it is  
not noticed by <sup>(but Raul also collected it.)</sup> Dr. Hooker; Most likely  
not originally European, nor American.  
~~Dr. Harvey gathered it at the Friendly, and~~  
~~Dr. Hermann, on the Feejee Islands~~

~~11. Erigeron (canthus) floribundus.~~

~~Coryza floribunda, N. B. K., Nov. Gen. &~~



11. Erigeron (Canotus) albidum.

Gnysa albida, Willd.; Spreng.  
Syst. 3, p. 514; Less. in Linnaea,  
6, p. 136; DC. Prodr. 5, p. 378.

C. diversifolia, Minn. ex DC. l. c.?

C. erigeroides, DC. l. c. p. 378, ~~forma~~  
~~ex cinerea?~~

C. floribunda, H. B. K. Nov. Gen. & Spec.  
4, p. 73; DC. l. c. p. 380; Stuebe in  
Bot. Voy. Herald, p. 151; forma  
capitulis majusculis?

C. chenopodioides, DC. l. c. p. 379?

Erigeron solidaginoides, Schlecht. in  
Linnaea, 25, p. 213.

E. Bonariensis, Seem. in Monpl. 1851, p.  
257, no. 264.

Stab. Brazil, at Rio, and Organ  
Mountains; the latter smoother and with  
larger heads, like those of Gnysa floribunda  
H. B. K.; also, in the Organ Mountains,  
a microcephalous form, with lower leaves  
much cleft (C. chenopodioides, DC.?). Peru,

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at Callao. Tahiti, Society Islands.  
Dr. Harvey gathered a macrocephalous form  
of it at the Friendly Islands, and Dr. Surham  
at the Fiesse Islands.

I have not referred all the above  
synonyms upon the evidence of auth-  
entic specimens; but I suppose that  
they are correctly adduced. If so, the  
size of the heads varies more than in  
~~the~~ *E. linifolium* and *E. Canadense*,  
to which two species it is about equally  
related. It is evidently Schlecht-  
dal's *E. solidaginoides*, which name  
might be retained for it, but it is  
more proper to fall back upon the  
original <sup>specific</sup> ~~appellation~~ name. It is now  
widely dispersed over the world, but in warmer climates  
than *E. Canadense* affects.

12. *Erigeron* (*Caninus*) *Bonariense*, <sup>Lin.</sup>

*Erigeron spiculозus*, Hook. & Arn.  
Bot. Beech. Voy. p. 32, & Comp.  
Bot. mag. 2, p. 49 (excl. var.  $\beta$ ),  
& p. 254; Hook. f. Fl. Antarc. 1, p.  
307.

*E. spinulosum*, DC. Prodr. 5, p. 289;

Remy in Fl. Chil. 4, p. 29.

*E. fasciculatus*, Colla, Pl. Chil. 2, p.

26, ex DC.

*E. sordidus*, Gillies, ex Hook. & Arn. Comp. Bot. Mag.

*E.* (<sup>2</sup>*Eucalyptus* <sup>254</sup>*Pilea*) <sup>254</sup>*Liriodendri*, Schultz Bip. in Flora, 1855  
Hab. Chili, near Valparaiso.

Rio Negro, North Patagonia; a variety  
with narrower leaves and smaller heads;

*E. sordidus*, Gillies, and the var. <sup>of *E. spinulosus*</sup> *minor*  
of Dr. Hooker.

From the habitat and from the rude  
figure of Dillenius on which the  
species was founded, I am convinced  
that this is the original *E. Bonariense*.  
The rigid setae <sup>on the margins of</sup> ~~by which~~ the leaves are  
ciliated characteristic. The heads vary  
in size, but are always much  
larger than those of *E. Canadense*,  
as Dr. Hooker has remarked.



13. Eriogonum (canotus) canadense, Lin.

Hab. Valparaiso, Chili, Kanai,  
Sandwich Islands.

This is not E. multiflorum, Hook  
& Arn. from the Sandwich Islands, as  
has been suspected, that being <sup>a</sup> Triptolium.  
But Coryza myriocephala and E.  
Bilbaviana of Remy, in the Flore Chilena,  
are synonyms of E. canadense; - a  
species which probably did not originally  
inhabit Canada or ~~the~~ any of the  
Northern United States, but extended  
came <sup>from a warmer region</sup> northward, as forests were cleared  
away and settlements made.

Villadina, A. Rich.

Capitulum multiflorum, hetero-  
gamum; floribus radii uni-  
pluriserialibus foemineis, disci  
(pluribus paucisve) tubulosis her-  
maphroditis. <sup>lobaticum seu hemisphaericum</sup> involucri <sup>imbricatum</sup>  
pauciseriale, squamis  
<sup>inequalibus</sup> angustis appressis. Receptaculum  
planum, nudum, pl. m. alveo-  
latum. Ligula ~~semper~~ <sup>fixe semper</sup> parvae,  
tubo ~~suo~~ breviores, nunc exig-  
ue stylo ipso breviores. Corollae  
disci tubulosa, 4-5-dentata.  
Antherae ~~erigentes~~ Euasterine-  
arum. Styli rami, fl. herm.  
<sup>superne elongato, subulato hirtelli</sup>  
~~anguste lineares in appendicem~~  
~~gracilem subulatam hirtellam~~  
~~producti~~. Achenia compressa,  
striata, vel 4-6-costata, ~~raro~~  
~~tantum~~ <sup>vel tantum</sup> marginato-bicostata  
lateribus <sup>enerviis</sup> ~~striatis~~, disco apice  
sepius contracto, disco epigyno parvo. <sup>Pappus</sup>

simplex, coniformis, e setis capilla-  
ribus scabris uni-plura <sup>paucis</sup> serialibus.  
— Suffrutices vel herbae <sup>saepe</sup> basi  
fruticosae, Oceanica; cauli-  
bus ramosis plerumque foliosis-  
simis; foliis alternis; integris  
dentatis; capitulis nunc solita-  
riis <sup>ramos</sup> ~~paucis~~ terminantibus nunc  
corymbosis; ligulis albis vel pur-  
pureis.

Vittadinia, A. Rich. Bot. Voy.  
Astrol. Fl. N. Z. (1834) p. 250;  
Hook. f. Fl. Tasman. p. 181.

Tetramolopium, Nees, Bot. (1833),  
p. 202, pro parte.

Vittadinia, Tetramolopium sect. 1, &  
Eurybiopsis, DC. Prodr. 5, p. 260,  
262, 280.

Eurybiopsis, and DC., is <sup>essentially</sup> ~~fully~~  
identical with the older genus Vit-  
tadinia, <sup>A. Richard,</sup> and has been referred



to it by Dr. Hooker. The only difference observable is that the faces of the achenia of Eurybiopsis macrorhiza, if I rightly identify the plant, are nerveless, those of Vittadinia striate-nerved. There must now be added to the genus several Hawaiian species, one of which is strictly an Eurybiopsis; another, <sup>(in part)</sup> the type of Tetramolopium, Nees, differs only in its less copious, uniserial pappus, and in the shorter, mostly four-ribbed achenia; while others, with corymbose and still smaller heads, have decidedly pluriserial <sup>(with more reduced)</sup> rays, ~~so reduced that they are shorter than~~ <sup>the pappus or even</sup> ~~the pappus or even~~ <sup>than their styles,</sup> and the hermaphrodite flowers fewer, in one instance reduced to unity; — so that these are to Vittadinia proper what the Coryzoid Erigeron are to Stenactis <sup>(to true)</sup> or Erigeron. The genus, thus extended, while ~~on the~~ <sup>by its larger-flowered species</sup> ~~is nearly~~ <sup>is</sup> nearly related to Eurybia (from which, as DeCandolle and

Dr. Hooker remarks, it technically differs only in its compressed achenia, and nearly congruous with the group of ambiguous Asters designated under the name of Orthomeris by Torrey and Gray, is now seen on the other hand to be the analogue of Erigeron. From the latter, ~~abundantly~~ ~~poly~~ already too polymorphous genus, Nittadina would be well distinguished by its striate or ribbed achenia, and the slender subulate tips of the branches of the style, except that, unfortunately, ~~some~~ ~~of~~ ~~the~~ ~~species~~ ~~want~~ ~~the~~ ~~facial~~ ~~ribs~~ ~~nor~~ ~~striae~~, while <sup>a few</sup> ~~some~~ species of Erigeron, as Weddell regards them, have long and slender tips to their styles. <sup>and some North American ones have their achenia 4-nerved.</sup> The habit generally is not that of Erigeron; and the achenia and the more imbricated involucre will distinguish those species which might be confounded with the



Canoti. The short, but always distinct ligules are characteristic of the genus. Most of the Sandwich-Island species are decidedly shrubby plants, those of New Zealand and Australia woody at the base; but there are at least two Australian species which ~~seem~~ <sup>appear</sup> to have annual roots: on the other hand, Erigeron peticosum of Juan Fernandez, which forms a shrub, is apparently a genuine Erigeron. DeCandolle assigns uniserial rays to his Eurybiopsis and the New Zealand Vittadinia, and bi-triserial ones to the Australian Vittadinia: Dr. Storker regards them as uniserial throughout. When numerous and with narrow ligules this character has neither definiteness nor significance, ~~either~~ as is well seen in Erigeron. To both Eurybiopsis and Vittadinia DeCandolle as-



eribes a "pappus uniserialis," a term which he seems not always to have ~~employed~~ employed in one and the same sense. In the species known to DeCandolle <sup>very copious</sup> the bristles of the pappus certainly occupy <sup>two or more</sup> ~~several~~ rows, just as in Aster. From these there is a gradual transition to the <sup>more</sup> scanty and truly uniserial pappus of N. tenerrima and the smaller-flowered species of the Sandwich Islands.

For the genus as thus augmented, the name of Tetramolopium <sup>might</sup> ~~may~~ be reclaimed in virtue of priority, as it antedates Vittadinia by a year. But the former ~~genus~~ name was given to two heterogeneous species, - that from the Sandwich Islands, which has long remained very obscure, and that from the Tertiary Andes, which is a Diplostephium <sup>(and)</sup> with which DeCandolle rightly associated ~~two other~~

two other of Humboldt and Kunth's Aster.  
The three generic names now brought  
together may be retained for sections,  
thus: —

1. Villadinia vera. Achenia elongata,  
faciebus pluristriatis. Pappus copio-  
sus pluriserialis. Ligula pl. m.  
conspicua. Capitula majuscula  
solitaria.
2. Eurybiopsis. Achenia minus elon-  
gata, marginato-binervia, facie-  
bus haud striatis. Pappus uni-  
pluriserialis. bat. praecedentis.
3. Tetramolopium. Achenia breviuscula,  
quadricostata, nempe, costis 2 mar-  
ginalibus validis, 2 facialibus an-  
gustioribus, his raro inconspicuis,  
quandoque geminatis. Pappus uni-  
serialis. Capitula nunc solitaria  
ligulis breviter <sup>et</sup> exsertis, nunc parva  
corymbosa ligulis pluriserialibus discum ~~haud~~  
haud superantibus, floribus disci paucis vel paucis-  
simis.

1. Vittadinia triloba, DC.

N. caule erecto e radice annua  
apice subcorymboso cum foliis  
spathulatis cuneatisve basi longe  
attenuatis superne trilobis vel  
tridentatis (ramealibus angustis-  
oribus saepius integerrimis) & scabro-  
hirtellis vel hirsutis; ligulis pur-  
pureis breviter exsertis; acheniis  
clavato-linearibus pluristriatis  
immarginatis pubescentibus,  
maturis involucrio atque pappo  
etiam pappo pluriseriali ful-  
vo aequilongis. — Variat, foliis can-  
linis tripartitis lobis trifidis seu laciniatis.

Vittadinia triloba, DC. Prodr.

5, p. 281, non Hortul. Europ.

Brachycome triloba, Gaud. Bot.

Freye. Voy. p. 467.

Hab. Hunter River, New South



Wales.

This is, I presume, truly the species of Gandichand and of DeCandolle, although the stem and leaves are usually more hirsute or hispid than is described: they vary greatly in this respect, as also in the incision <sup>and form</sup> of the leaves. The spatulate or cuneate limb of the cauline leaves is generally three-lobed, or furnished with one or two salient teeth, sometimes cleft into three to five deep lobes, or even bipalmately parted or pedate, all tapering into a slender petiole-like base. Heads 5 or 6 lines long, <sup>many-flowered.</sup> Ligules Rays uniserial or nearly so: the ligules exerted beyond the cypriae ~~fulvous~~ pappus, purple or blue,  $1\frac{1}{2}$  to 2 lines long, shorter than their slender tube. Achenia narrow,  $2\frac{1}{2}$  to 3 lines long, with no thickened ribs at their margins. Bristles of

fulvous pappus soft, more or less unequal in length, evidently occupying several series. The root in our specimens, ~~as in those collected at Moreton Bay by Mrs. Hallard,~~ is plainly annual; which character, along with the commonly lobed or even dissected leaves, and the rougher pubescence, will distinguish the species from the (not aptly named) *N. cuneata* of De Baudelle and Hooker (*Eurybiopsis gracilis*, Hook. f.). To the latter De Baudelle's *N.?* *dentata* (*Brachycome*, Gandich.) seems likely to belong. ~~Another~~ Mueller and Sonder have united the *N. cuneata*, D.B., ~~and Hooker~~ or at least of Hooker, with the *Eurybiopsis scabrata*, Hook. f., now regarded as *N. scabra*, D.B., under the name of *Eurybiopsis* or *Vittadinia Hookeri*; but Mueller's plant, at least the variety

angustifolia, which accords pretty well with the character of DeCandolle's N. Scabra, is distinguishable by its less copious and shorter pappus, and by the ~~stronger marginal ribs~~ <sup>less attenuated achenia being</sup> evidently margined by ribs <sup>considerably</sup> stronger than the facial nerves.

The plant which was generally ~~cult~~ cultivated in European botanic gardens a few years ago under the name of Vittadinia triloba, and which Dr. Sonder, mistaking it for the genuine Australian plant, has (in the Hamb. Gart. & Blumenzeitung, 12, p. 78) described as Erigeron trilobum, is manifestly DeCandolle's Erigeron mucronatus of Mexico and Venezuela.



J. Muell. ined.

2. Nittadinia (Eurybiopsis) hispidula,

N. undique scabro-hispida sen  
hispidula; caule erecto e radice  
anua stricto oligocephalo;  
foliis caulinis linearibus semilibus  
imixte spatulatis paucidentatis;  
ligulis e pappo leviter exsertis; ache-  
nis obovatis appresse-histellis obo-  
vatis apice breviter acutatis ~~sen~~  
marginibus nervis crasso cinctis faci-  
ebris enerviis pappo fere uniseri-  
ali brevioribus.

New South Wales, with  
Itab. } With the preceding species.

A ~~strict~~ rough-pubescent plant,  
with a strict stem, one or two feet  
in height, from an evidently annual  
root, both in our single specimen  
and in one from Dr. Mueller's Tropical  
Australian collection, from Gilbert  
River. Leaves, except the lowest,

much less tapering downward than  
in the foregoing, mostly linear, an  
inch or more in length and  $1\frac{1}{2}$  to  
 $2\frac{1}{2}$  lines wide, commonly with one  
or two salient coarse teeth on each  
margin. Peduncles naked. Heads  
smaller than in the preceding, 4  
lines long; the ray flowers apparently  
more numerous in proportion (biserial?),  
and their ligules ~~rather~~ smaller,  
barely exerted from the fulvous pap-  
pus, which nearly accords with De-  
boulle's character of *Eurybiopsis* in  
being nearly uniserial, at least  
it is much less copious than in  
*V. triloba*, ~~than~~ or even than in *V. scabra*.  
Achenia not quite a line and a  
half in length, flat, obovate with  
a tapering base, abruptly contracted  
at the apex into the small epigynous  
disk which bears the pappus, furnished  
with a conspicuous callous nerve <sup>or rib</sup>  
upon each margin; the faces not at

striate or nerved, ~~excepting~~ excepting  
sometimes faint traces of a mid-  
nerve towards their base. Pappus soft,  
one third longer than the achenium.

V. (Eurybiopsis, DC.) macrohiza, -  
if De Baudolle's species is rightly identified  
with Dr. Mueller's specimens from "Pro-  
vidence Hill", - considerably resembles  
dwarf and very narrow-leaved forms  
of V. scabra, but the faces of the  
achenia are nerveless as in V. his-  
pidula. The immature achenia  
are linear, and nearly as long as  
the pappus which is more copious  
than in the latter.

3. Nittadinia (Eurybiopsis) humilis, <sup>Sw.</sup> sp. 1

V. suffruticosa, e basi crassa mul-  
ticaulis, sperithamea; caulibus  
foliosissimis; foliis anguste spathu-



latis integerrimis undique hispi-  
dis histellisve aveniis, costa  
subtus ~~per~~ incrassata; pedun-  
culis brevibus solitariis vel subum-  
bellatis; ligulis uniserialis flo-  
res disci (6-12) vix superantibus  
stylis duplo longioribus; acheniis  
lineari-oblongis <sup>marginato-</sup> binerviatis  
histellis estriatis pappo subtri-  
seriali inequali dimidio  
brevioribus. — Variat foliis hisu-  
tioribus <sup>ibus</sup> vel subglabratis, nunc fore  
linearibus basi longe attenuatis.

Hab. Sandwich Islands; on the  
mountains of Hawaii (Mouma  
Loa, Mouma Kea, at the elevation  
of 8000 feet and more, H.); also  
~~Mauai~~, on the banks of the crater in  
the eastern part of Maui. Collec-  
ted also by Kemy upon Hawaii.

Stems <sup>mostly erect,</sup> 4 to 8 inches high, woody, usually very numerous and crowded on a thick woody base or caudex, apparently forming dense tufts. Somewhat hispid, very leafy throughout their whole length, the leaves often almost imbricated on the younger ~~shoots~~ or sterile shoots. Leaves narrowly spatulate or linear. Spatulate with a slender ~~base~~ gradually attenuate base, about half an inch long, obtuse or acutish, thickish and rather rigid, veinless, but with a strong midrib with is salient underneath and impressed above, either densely or sometimes <sup>rather</sup> sparsely ~~hispid~~ and minutely hispid, usually appearing <sup>cinereous</sup>. Peduncles terminal or <sup>either single or 2 to 3 together,</sup> alar, about half an inch long, sometimes an inch long, sometimes hardly any, ~~the~~ when developed

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rather filiform, minutely granular-scabrous, bearing one or two scattered and minute subulate bractlets. Heads nearly obconical, 4 to 6 lines long. Involucre about half the length of the disk at maturity, ~~rather~~ <sup>(16 to 20)</sup> ~~the~~ the scales unequal, rather loosely imbricated, lanceolate-linear, acute, strongly one-nerved, minutely granular-scabrous. Ray-flowers 10 or 12; the corolla purplish, the tube 2 lines long, nearly equaling the pappus; the ligule scarcely ~~more~~ above a line in length, linear-oblong, minutely tridentate at the extremity. Disk-flowers 6 to 12, perfect; their corolla narrowly tubular-funnel-form, the summit tinged with purple, at first probably yellow, 5-lobed. Stamens and ~~style as of the~~



*S. A. Loughridge.*

Style as in the genus, the tips of the branches of the latter slender-subulate. Achenia alike in the disk and ray, a line and a half in length, flat, linear-oblong and narrowed towards the base, moderately contracted at the apex, minutely hairy or with the faces glabrate with age and minutely glandular-atomiferous, each margin conspicuously one-nerved, but the faces not at all nerved nor striate. Pappus 3 lines long, fulvous, not very copious, but nearly as in V. scabra, the bristles ~~occupying~~ <sup>most</sup> of the outermost shorter, and some of these not half the length of the inner.

This species manifestly connects the original Tetramolopium

with Eurybiopsis. A depressed  
and glabrate variety; from the  
District of Waimea, Hawaii,  
makes the nearest approach to  
Tetrandrium tenerrimum, Nees;  
but that species is well distinguish-  
ed by its smoothness, its more  
exserted ligules, uniserial pappus,  
and glabrous, mostly four-ribbed  
achenia; it is smaller in all its  
parts. Our naturalists did  
not meet with it. The subjoined  
character is from a specimen collec-  
ted by Macrae\*.

\* Vittadinia (Tetrandrium) tenerrima,  
V. suffruticulosa, glabra, caespitosa-multi-  
caulis; foliis in caulibus (brevisimis seu  
decumbentibus) confertis lineari-spathulatis  
uninerviis avenis parce hispidulo-ciliatis  
basi longe attenuatis; pedunculis solitariis  
gracilibus bracteis pluribus setaceis instructis;  
ligulis uniserialis <sup>pluriflorum</sup> discum super-  
antibus tubo subaequilongis; acheniis  
obovato-oblongis quadri 4-5-costatis;  
pappo uniseriali aequali. — Oahu,  
Chamisso, Macrae.



4. Vittadinia (Tetramolpium) Chamissonis.

N. fruticosa, ramosissima, glabella;  
ramulis ~~fastigiatis~~ corymbosis  
puberulis (foliosissimis; usque ad apicem)  
foliis lineari-lanceolatis seu lineari-  
bus basi sensim attenuatis et saepius  
hirsuto-ciliatis integerrimis sub-  
dentatis rariusve laciniato-incis-  
sis creberrime papuloso-punctu-  
latis submembranaceis venulosis;  
pedunculis brevibus filiformibus  
corymboso-oligocephalis; capitulis  
parvis; involucri squamis lineari-  
lanceolatis acutis vel acuminatis;  
ligulis 15-20 tubo <sup>subterioribus</sup> ~~subaequantibus~~  
flores disci 5-10 ~~vix~~ superan-  
tibus ~~acheniis~~ stylis plerumque  
longioribus; acheniis obovato-oblon-  
gis parce hirtellis vel glabratis  
quadricostatis, costis marginali-  
bus ~~inera~~ calloso-incrassatis,

facialibus angustioribus nunc  
fere obsoletis ~~nunc~~<sup>raro</sup> geminatis;  
pappo uniseriali.

Erigeron lepidotus, Less. in Lin-  
nea, b. p. 502; Fl. Prodr. 5, p. 284.

E. pauciflorus, Hook. & Arn. Bot.  
Beech. Voy. p. 87; Fl. l.c.

Var. <sup>3</sup> arbuscula: foliis ~~in ramulis~~  
secus ramulos ultimos confer-  
tissimis rigidioribus angusti-  
oribus nunc fere filiformibus;  
pedunculis abbreviatis; capitulis  
paucioribus majoribus.

Hab. Sandwich Islands: Oahu,  
in the Kaala Mountains, H.; collected  
by Chamisso, Macrae, and others. - Var.  
β. On the north bank of the great  
crater of East Maui.

A very bushy shrub, its height not mentioned, but apparently as much as two or three feet; the ~~ultimate~~ <sup>scattered</sup> branches slender, but even the ultimate ones more or less woody, crowded with leaves up to the short and slender peduncles. Leaves commonly about an inch long, and one or two lines wide, rather membranaceous in texture, glabrous, except the sparse ciliate hairs which fringe their lower, attenuated portion, at least when young, but minutely papillose-dotted under a lens which gives them a somewhat scabrous appearance, yet not such as to render Lessing's term "lepidote" at all appropriate. Peduncles an inch or less in length, slender, naked, ~~commonly~~ somewhat umbellate or crowded at the summit of the branches, and bearing several (from 2 to 7) heads on short pedicels in a small corymb. Heads only



two lines in length. ~~Scales of the~~  
Involucre little shorter than the  
disk; the narrow scales all acute  
or pointed, minutely pubescent  
on the back, or the inner ones  
glabrous, the margins scarious, or  
the innermost almost wholly sca-  
rious, the margins more or less den-  
tulate-ciliate. Pistillate flowers  
in more than one series. Ligules  
apparently white, linear, from half  
a line to nearly a line in length,  
truncate and 2-3-toothed at the apex,  
shorter than its <sup>rosette</sup> ~~short~~ tube or some-  
times almost equalling it. Disk-  
corolla yellow turning purplish;  
the limb 5-lobed; branches of the  
style linear-subulate, the upper  
~~part~~ half minutely hispid. Achenia  
a line long, flat, each margin bor-  
dered by a thick and salient smooth  
rib, and each face with a similar  
but narrower, or sometimes inconspicu-

ous rib, or occasionally a pair of ribs. Pappus of Eigerni, barotus, uniserial, but rather copious, fulvous.

The var. arbuscula would be taken for a distinct species and may prove to be so. It has stouter and rigid branchlets, covered with narrower and more rigid leaves, which are somewhat recurved, ~~most~~ <sup>not ~~over~~ above half a line wide</sup> an inch or more in length, <sup>in the</sup> dried state most of them appear almost fili form, but they are evidently plane when fresh. The heads are less numerous but decidedly larger, being three lines in <sup>diameter</sup> ~~length~~; the flowers more numerous, but similar. Ligules not larger than in N. Chamissonis, sometimes not exceeding their styles. Involucres glabrous or nearly so.

It is not surprising that Lessing should have failed to ~~dis~~



recognize the close relationship of his *Erigeron leptodus* to his *Aster tenuissimus* (the *Tetradlopium tenuissimum* of Nees), evident as this now appears in the ~~the~~ with our present materials. ~~Any doubt there is an~~ Any doubt that might remain is resolved by a well-marked species, collected by Remy only, which with the inflorescence and exserted ligules of *V. tenuissima* has the <sup>general</sup> habit of *V. Chamissonis*, var. *arbuscula*, but still narrower and more rigid, lariciform leaves, \*

\* *Vittadinia* (*Tetradlopium*) *Remyi*, sp. nov.: fruticosa, corymboso-ramosissima, glabra; foliis secus ramulos confertissimis acerosis <sup>leviter</sup> ~~deorsum~~ attenuatis supra canaliculatis; pedunculis terminalibus <sup>solitariis</sup> ~~se~~ elongatis puberulis bracteis parvis setaceis instructis moncephalis; involucri hemisphaerici squamis

linearibus subulatis marginibus scariosis; ligulis biseriatis discum pluriflorum superantibus tubo breviusculo subduplo longioribus; acheniis appresse hirsutulis obvato-oblongis quadricostatis; pappo albo uniseriali. — Maui, Sandwich Islands, coll. M. J. Remy, no. 239; herb. Mus. Par. — Shrub at least a foot or two in height; the rigid branches squarrose with the crowded scars of the fallen leaves. Leaves very much crowded on the ultimate branchlets, 6 to 12 lines long, almost as slender as those of a Larch, smooth, or the youngest obscurely scabrous, obscurely re-nerved

on the back, deeply channelled on the upper side as if involute. Peduncles <sup>one or two inches long</sup> single perminating the branches, rather stout and rigid, beset with several bracts or diminutive leaves of only a line or two in length, bearing a single head as large as that of *V. tenuissima*. Scales of the involucre more numerous and more rigid than in the related species. Receptacle after the achenia have fallen 2 lines in diameter, flat. Pistillate flowers numerous, occupying more than one series. Ligules apparently white, narrowly linear, 2 lines long, their tube scarcely exceeding a line in length. Achenia and pappus as in the allied species. This species alone has ligules <sup>decidedly</sup> longer than their tube; but they are inconspicuous in the specimens, being narrow and spirally revolute.



Sp. Nov.  
5. Vitadina (Tetramolopium) consanguinea

V. fruticosa, corymboso-ramosissima,  
glabella; ramulis usque ad apicem  
foliosissimis; foliis lineari-lanceo-  
latis seu lineari-spathulatis basi  
attenuatis subciliatisque integer-  
rimis raro 1-2-dentatis; pedunculis  
brevis corymbosis mono-oligoceph-  
alis; capitulis parvis; involucri plu-  
riseriali squamis lineari-oblongis  
obtusissimis scarioso-marginatis,  
margine creberrime denticulato-  
ciliato; ligulis plurimis tubo  
subaequilongis flores disci 2-5  
adequantibus; acheniis glabris  
quadricostatis <sup>et pappo</sup> N. Chamissonis,

Hal. Sandwich Islands; in  
the District of Waimea, Hawaii,  
and on the mountains of Kauai.

This species very much resembles N. Chamissonis, and may have been confounded with it. The principal character is in the involucre, which in N. consanguinea is more imbricated, and consists of broader and very obtuse scales, bordered with a more definite scarious margin, which is fringed with thickly-set and fine ciliate denticulations. The heads are not larger than those of the former species, but apparently have more numerous <sup>ray</sup> flowers, — ~~Ligules~~ usually 25 to 30. Ligules white, linear, longer than the pappus, somewhat exceeding their styles. Pappus white in one specimen, fulvous in the other, uniserial and simple. Leaves nearly glabrous or soon glabrate. Peduncles short, but slender, minutely pubescent, corymboid, bearing single or 2 to 3 heads. — Stoker and Frost's Erigeron pauciflorus is said to have

the involucral scales oblong, but acute. Lessing's *E. lepidatus* is said to have them linear and acuminate; and I have identified original specimens of both with those ~~here~~ described above as *N. Chamissonis*.

b. *Vittadinia* (*Tetramolopium*) *arenaria*, Sp. nov.

V. *suffruticosa*, *laxe ramosa*, *hirtel-*  
~~ramis usque ad apicem foliosis;~~  
~~ca~~ *foliis lanceolatis* *sen oblongo-*  
*lanceolatis basi attenuatis hirt-*  
*ciliatis* <sup>*integerrimis*</sup> ~~*oppressis*~~ *mucronatis; capit-*  
*ulis breviter pedunculatis corymbosis;*  
*involueri squamis linearibus*  
*acutis submembranaceis; ligulis*  
*plurimis tubo brevioribus flores*  
*disci 5-9 subaequantibus; acheniis*  
*oblongis quadricostatis* <sup>*sen glabratis*</sup> *hirsutulis;*  
*pappo uniseriali, setis inaequalibus.*



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Hab. Sandwich Islands: Maui,  
on sand hills; and District of  
Haima, Hawaii.

Stem apparently a foot or two  
in height, woody, but the shoots  
of the season herbaceous, modera-  
tely branched; the branches leafy  
to the top, minute-pubescent. Leaves  
an inch or an inch and a half in  
length, 2 or 3 lines wide, hardly acute  
but with a mucronate point, taper-  
ing to the base, plane, nearly mem-  
branaceous in texture, minute with  
short hairs, especially along the mar-  
gins and ~~narrow~~ slender mid-  
rib, which is ~~pretty~~ conspicuous on  
the lower face, the veins almost ab-  
solute. Heads, <sup>rather few, in a</sup> ~~forming a~~ small  
terminal corymb, on slender and  
simple or sparingly branched pubes-  
cent peduncles, which are hardly  
erected from among the leaves. Two-

lucres about 3 lines in diameter,  
nearly glabrous; the scales nar-  
rowly lanceolate-linear, acute or  
pointed, thin, almost membra-  
naceous, their narrower scarious  
margins ciliate-denticulate.

Pistillate flowers 30 or more, occu-  
pying several series. Ligules appa-  
rently white, oblong or linear,  
about a line long, sometimes nearly  
as long as the tube, hardly if at  
all exceeding the few disk-flowers.  
Branches of the style in the latter, as in  
the genus, slender-subulate and minu-  
tely hispid. Achenia as in the  
foregoing species, but rather narrower,  
either pubescent or <sup>at length almost</sup> ~~nearly~~ glabrous,  
a line in length. Pappus simple  
and rather scanty, white, somewhat  
fragile.

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Sp. Nov.

7. Nittadinia (Tetramolopium) conyzoides,

V. puticosa, ramosissima, cinereo-  
pubescens; ramulis usque ad apicem  
foliosis; foliis angusto-lanceola-  
tis basi longe attenuatis integer-  
rimis membranaceis; capitulis mini-  
mis compluribus in congestum co-  
rymbosis; involucris squamis line-  
aribus subacutis; ligulis plurimis  
brevissimis pappum uniserialem  
adequantibus stylis suis brevioribus;  
flore hermaphrodito pappus unico;  
achenis parce hirsutulis 2-4-cos-  
tatis.

Hab. Sand-hills of Maui,  
Sandwich Islands.

(more or less)  
A shrubby plant, at least a  
foot or two in height, copiously  
branched, the branches of the season  
nearly herbaceous, very leafy. Leaves



one or two inches long, about 2 lines wide, acute, with a long tapering base, somewhat hoary with a fine and rather soft pubescence, obscurely three-nerved or triplinerved. Peduncles slender but scarcely exerted from among the leaves, terminal and from the upper axils, branching, and bearing numerous heads in crowded corymbs. Heads <sup>only</sup> about a line and a half in length. Scales of the involucre rather few, linear or lanceolate, the scarious margins crose-denticulate. Pistillate flowers 20 to 30. Ligules oblong, truncate, 2-3-toothed, <sup>white,</sup> not half the length of their tube, shorter than their styles, scarcely revolute-coiled after anthesis as in the rest of the genus. Hermaphrodite disk-flower usually only one, rarely two; its style with slender subulate tips. Achenia as in the related species, but the facial

ribs often inconspicuous or obsolete.  
Pappus rather scanty, in a single  
series.

By itself this species would  
be referred to Erigeron section  
Caninus, and would seem to have  
nothing to do with ~~the original~~  
Vittadinia and little with the  
original Tetramolopium. But it is  
an evident congener of the preceding  
species.

Minuria: Sb.

1. Minuria leptophylla, Sb.

Hab. Hunter's River, New South Wales.

The plant is herbaceous, the root only somewhat lignescent. Rays 16 to 18. Bristles of the pappus in the ray densely denticulate, almost barbellulate. Pappus of the sterile disk-flowers composed of three or four long bristles which are barbellate towards the apex (more so than in Cunningham's specimens, which are otherwise similar), and of as many short and ~~lanceolate~~ laciniate or cerosed paleae, all more or less concreted at the base.



Calotis, R. Br.

1. Calotis dentex, R. Br.:

Hab. Newington, New South Wales.  
A somewhat pubescent variety, with many of the leaves lacinate or even pinnatifid.

2. Calotis palmata, Sp. Nov.

C. hispidulo-pubescentis; foliis cuneatis seu flabelliformibus palmato-3-5-fidis <sup>nunc</sup> ~~seu~~ pedatifidis inferne longe attenuatis quasi in petiolum alatum attenuatis basi leviter auriculatis, summis linearibus oblongisve integerrimis vel apice tridentatis; involucrio biseriali fere 20-phyllo; acheniis <sup>complanatis</sup> levibus; pappo e paleis 2-4 et aristis 1-2 versus apicem parce retrorsum aculeolatis.

2

Hab. Hunter's River, New South  
Wales.

Herbaceous, a foot or more in height, sparingly branched, beset with a rather sparse and short hirsute pubescence. Baseline leaves about an inch long; the lower half narrower and petioleiform and dilated at the insertion into a small but distinctly auriculate base, and above expanded into a broadly cuneiform or flabelliform limb, which is palmately 3-5 cleft about to the middle, the lobes linear-oblong or lanceolate, <sup>acute or mucronate;</sup> the lateral ones occasionally two-cleft, so as to become pedate. The upper <sup>(and smaller)</sup> leaves gradually change into a linear-cuneiform with a trifid apex, or become linear-oblong and entire. Peduncles 2 to 4 inches long, naked.

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Heads rather larger than those of *C. dentex*. Scales of the involucre 15 to 20, linear-lanceolate, somewhat biserial. Achenia: fully a line in length, flat, broadly cuneate-obovate, smooth and glabrous, except some scattered and very minute short hairs especially on the thickened margins. Pales of the pappus either two broadly oblong ones on each side, distinct or partly united, or <sup>a single</sup> ~~one~~ very broad one on each side, which is often notched at the truncate summit. Aurs one or two, about 3 lines long, or that from the inner angle of the achenium often shorter or obsolete, slender, smooth except towards the summit, where it is moderately or else sparingly retrorsely barbed.

*C. dilatata* of Bunningham has the aurs of the pappus similarly but more sparingly barbed; its leaves are not lobed as in the present species, and the basal auricles are more conspicuous.



3. Caltis Lappulacea, Benth.

Caltis Lappulacea, Benth. Enum.  
Pl. Stuegl. p. 60; Sonder in  
Linnaea, 25, p. 470.

Stat. Hunter's River, New South  
Wales.

Brachycome, Cass.

1. Brachycome glabra, Benth.

Brachycome glabra, Benth. Enum.  
Pl. Stuegl. p. 59.

Steiroglossa rigidula, DC. Prodr. 1.  
p. 39.

Stat. New South Wales near Sydney.

2. Brachycome heterophylla, <sup>l.c.</sup> Benth.

Hab. Hunter's River and Puer Puer,  
New South Wales; with a minutely sub-  
glandular form.

3. Brachycome marginata, Benth. <sup>l.c.</sup>

Hunter's River, New South Wales.  
A variety with narrow linear leaves.

4. Brachycome linearifolia, DC.

Brachycome linearifolia, DC. Prodr.

5. p. 306, ex char. Benth. Enum.  
Pl. Stuebeli p. 60! non Hook. f.

Hab. New South Wales, near Sydney.

Our plant is Benthian's B. line-  
arifolia, and the reference to the figure  
of Labillardiere shows it to be De Can-

Dolle's also. Sonder has, incorrectly  
as I suppose, referred De Baudelle's  
B. linearifolia to B. radicans of  
Steud. (which probably B. graminea  
of Mueller), a less caulescent species  
with broader involueral scales; and  
Dr. Storker <sup>in the Flora of Tasmania,</sup> has described a still  
different species under this name.

## Lagenophora, Bass.

### 1. Lagenophora Commersonii, Bass.

Aster nudicaulis, Comin.; Lam. Dict.

1, p. 308, & Ill. Gen. t. 681, f. 4.

Calendula pumila, var. Forst. in

Comm. Goett. 9, p. 40.

C. Magellanica, Willd. Spec. Pl. 3, p. 2344

C. pusilla, Thouars, Fl. Trist. d'Ac.

p. 40, t. 9.



Bellis Magellanica, Lb. in Lam.  
Dict. 5, p. 7.

Lagenophora Commersonii, Cass.  
in Dict. Sci. Nat. 25, p. 110;  
Lb. Prod. 5, p. 307; Hook. f. Fl.  
Antarc. 2, p. 307, t. 108; Remy  
in Gay, Fl. Chil. 4, p. 30; Wedd.  
Chil. And. 1, p. 186, t. 32.

L. Magellanica, Cass. in Bull. Phil.  
1818, p. 199.

Stat. Orange Harbour, Fuegia.

The numerous Fuegian speci-  
mens of this collection do not differ  
from Gay's Chilean ones in the marked  
<sup>that those of Commerson do, as</sup>  
manner mentioned by Weddell, the  
involucral scales being either acuteish  
or obtuse, though hardly so blunt  
as those from <sup>the</sup> Chilean Andes. The  
plant is by no means an annual, but  
multiplies by slender stolons. It  
is very uniform in appearance. ~~There~~  
Neither among our specimens ~~nor in~~

any herbarium or we find intermediate forms connecting it with L. hirsuta, which we therefore retain as a distinct species.

2. Lagenophora hirsuta, Poepp. ~~1815~~

Lagenophora hirsuta, Poepp. in Linnaea,  
6, p. 131; Poepp. Endl. Nov. Gen.  
+ Spec. 1, p. 16, t. 26; Ob. l. c.;  
Remy, l. c.; Medd. Chl. Ind.  
1, p. 187.

L. Commersonii, var. hirsuta, Hook.  
+ Arn. Comp. Bot. Mag. 2, p. 51;  
Hook. f. Fl. Antarc. 2, p. 307.

Hab. Grange Harbour, Fuegia.

3. Lagenophora Forsteri, Ob.

Calandula pumila, Forst. Prodr.  
Fl. Ins. Austr. p. 57; Willd. l. c.

Microcalia australis, A. Rich.,  
Fl. N. Zee. Voy. Astral. p.  
231, t. 30.

Lagenophora Forsteri, DC. Prodr.  
5, p. 307; Hook. f. Fl. N. Zee.  
1, p. 125.

Hab. Bay of Islands, New Zealand.

4. Lagenophora lanata, A. Bunn.

Lagenophora lanata, A. Bunn. in  
Ann. Nat. Hist. 2, p. 126; Hook. f.  
Fl. N. Zee. 1, p. 126.

Hab. Bay of Islands <sup>and Tiptona,</sup> New Zealand.

The lanate-hirsute and nearly sessile,  
resolute leaves, with the long and  
slender smooth scapes, small head  
and ~~purple~~ much fewer purple rays,  
well distinguish this species from the



preceding. It is more like certain  
forms of L. Billardieri.

5. Lagenophora Billardieri, Bass,

Bellis stipitata, Labill. Pl. N. Holl.  
2, p. 55, t. 205

Lagenophora Billardieri, Bass, in  
Dict. Sci. Nat. 25, p. 111; Db.  
l. c.; Stork, Fh. Tasman. 1, p. 188,

Tranchemus sublyratus, Bass, in  
Dict. Sci. Nat. 56, p. 176; Db.  
l. c. p. 308,

T. lyratus, Less. Syn. Comp.  
p. 193.

Stat. Sydney and Hunter's River,  
New South Wales, Waiata-ruru Bay,  
New Zealand, according to the ticket.

The specimens all belong to De  
Candolle's var. media and var.

111  
glabrata, and are well represented  
Labillardiere figure of Billis stipitata,  
except that ours uniformly have  
smaller heads. They accord with  
Sieber's no. 505, which Dr. Hooker  
thinks is distinguishable from L.  
Billardieri by its smaller capitulum.  
It is pretty certainly Cassini's Exan-  
churus (although the disk is fertile  
and the ligules not very long), and it  
accords with specimens gathered by  
Labillardiere at Port Jackson. The  
specimens ~~marked~~ ticketed 'Naya-ruru  
Bay New Zealand' are not different;  
but there may be some mistake about  
the habitat in this as in some other  
instances. If not the specimens  
~~would~~<sup>might</sup> fall under Dr. Hooker's L.  
petiolata; though the leaves have  
short petioles. The Lagenophora  
from Hongkong, and probably that  
of Japan, which has been referred to  
L. Billardieri is L. Sundaana of Miquel.

which is apparently L. latifolia of  
Hooker, ~~which is~~ It is known by its  
lanceolate achenia. Those of L. Billar-  
dieri are semi-obovate, not 'broadly  
obovate'.

Nov. (Tab. . .)

b. Lagenophora Pickeringii, sp. n.

L. foliis hirsutis junioribus primis  
villosis lanatis ~~petiolatis~~ oblon-  
gis ovalibusque in petiolum  
attenuatis repando-dentatis;  
scapis gracilibus nudis; involu-  
cri squamis linearibus fere glabris;  
achenis radii oblongo-lanceola-  
tis exsertatis insigniter costatis  
glaberrimis, disci sterilibus.

Stat. Mountains of Muthuata,  
one of the smaller Feejee Islands.



One of the largest species of the  
genus; the leaves, which are clus-  
tered on the extremity of a thickish  
creeping rhizoma, being  $1\frac{1}{2}$  or 2  
inches long and with a petiole of  
<sup>about</sup> half that length, or sometimes ~~nearly~~  
as long as the blade, when young  
densely villous throughout with  
long hairs, as is the lower part  
of the scapes, at length only  
minutely pubescent, membra-  
ceous, obtuse, repand or repand-  
dentate. Scapes several from  
the same ~~rhizoma~~ tuft, 6 to 8  
inches high, naked, <sup>more or less pubescent.</sup> ~~soon gla-~~  
~~brous.~~ Head rather small, in  
fruit only 3 lines in diameter.  
Scales of the involucre rather  
short, linear, obtusish, soon  
glabrous. <sup>Receptacle strongly convex,</sup> Rays in two or more  
series; ligules apparently white,  
linear, rather short. Disk-flow-  
ers hermaphrodite, but is the

specimens their ovaries wholly infertile and inane. Achenia of the ray a line and three fourths in length, scarcely half a line broad, moderately compressed, slightly narrowed to each end, perhaps a little more so at the summit, which however is not at all rostrate, but terminated by an epigynous disk about the size of the basal callus, the surface coarsely striated by 8 or 10 strong and salient, obtuse, ~~and~~ smooth, longitudinal ribs, in a manner not known, I believe, in any other species. The achenia of L. Emphysopterus, Hook. f. are equally beakless and somewhat similar in shape, but ~~without~~ not costate.

Plat. ... ..

2. Achenia ... ..

... ..

Gutierrezia, Lag.

1. Gutierrezia paniculata, Gray.

Gutierrezia linearifolia, Hook. &  
Am. Comp. Bot. Mag. 2, p. 51

\* 254, non Lag.  
G. paniculata, Gray, Pl. Wright, 2, p. 78;  
Galinsogea? resinosa, Hook. & Arn.

Bot. Beech. Voy. p. 32.

Odontocarpa Poeppigii, DC. Prodr.  
5, p. 71.

Brachyris paniculata & B. And.  
Neesana, DC. Prodr. 5, p. 313;  
Remy in Gay, Fl. Chil. 4, p.  
35.

Hab. Rio Negro, North Patagonia.  
Near Valparaiso and Santiago,  
Chili.



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Grindelia, Willd.

1. Grindelia speciosa, Gillies.

Grindelia speciosa, Gillies & Don;  
Hort. & Arn. Comp. Bot. Mag. 2,  
(Pact. Fl. Gard. 3, t. 290, ex Musc. Ann. Bot. 5, p. 191,  
p. 45) (G. grandiflora, Gillies in herb.  
Book.)  
G. foliosa, Hort. & Arn. l. c., forma  
angustifolia.

Hab. Rio Negro, North Patagonia;  
on sandhills. A species with very large  
heads.

2. Grindelia diffusa, Gillies

Grindelia diffusa, Gillies; Hort. & Arn.  
Comp. Bot. Mag. 2, p. 45 & p. 253;  
Sc. Prodr. 7, p. 278.

Hab. Rio Negro, North Patagonia;  
on sand hills.

Hooker and Arnott, in their revision, refer this to G. pulchella of Dunal. But the identity did not suggest itself upon a cursory view of the specimens of both in DeCandolle's herbarium. - It is interesting to notice how some of the peculiar types of the Texan-New Mexican region (~~are~~ such this and the foregoing genus, Actinella, Thelaspisma, &c.) are repeated in the similar dry climate of an analogous but widely separated district in temperate South America.

Solidago, Linn.

1. Solidago marginella, Db.

Solidago marginella, Db. Prodr. 5,  
p. 332.

100  
S. odora var. glabra, Hook. & Arn.  
Comp. Bot. Mag. 2, p. 45, t. p. 253.

Hab. Rio Negro, North Patagonia,  
Foliage only. Very different from S.  
odora.

var. Poeppigii,  
2. Solidago linearifolia, (Sb. l.c.?)

Hab. Chili, near Santiago.  
An imperfect specimen.

3. Solidago chilensis, Meyen.

Solidago chilensis, Meyen, It. 1,  
p. 311; Walp. Rel. Meyen, p. 261;  
Remy in Gay, Fl. Chil. 4, p.  
40.

Hab. Chili, in the vicinity of Val-  
paraiso. Depauperate specimens.



*Nardophyllum*, Hook. & Arn., *Bot. Beechey*, 1846.

*Nardophyllum*, subgen. *Gochmalia* Lie? Hook. & Arn. in *Comp. Bot. Mag.* 1, p. 109, (1835.)

*Nardophyllum*, DC. *Prodr.* 7, p. 10; *Nedd. Chlor. Ind.* 1, p. 8. (1836)

*Dolichogyne*, DC. *Prodr.* 7, p. 529;

Kunz in Gay, *Fl. Chil.* 4, p. 102, 1845;

~~1847~~ *Ann. Sci. Nat. ser. 3.* 12, p. 184, (1847); *Nedd. Chlor.*

*Ind.* 1, p. 180, excl. sect. *Tola*.

*Chilodrichum* sect. *Arachnia*, Hook. f.

*Fl. Bot. Arc.* 1, p. 305.

*Arachnia*, Kunz in Gay, *Fl. Chil.*

4, p. 8.

*Microchate*, Schultze Bip. in *Reposit.*

*Flora*, 1855, p. 121, ex *Muell.*

*Ann. Bot.* 5, p. 315, non *Benth.*

1. *Nardophyllum revolutum*, DC.

*Gochmalia* (*Nardophyllum*, Hook. &

*Arn. l.c.*) *revoluta*, Don in

*Comp. Bot. Mag.* 1, p. 109.

*Nardophyllum revolutum*, DC.

*Prodr.* 7, p. 10; Kunz, l.c.

*Dolichogyne stachelinoides* &

*D. graphalioides*, DC. *Prodr.*

7, p. 256

*D. Gaudellei*, Kunz, in Gay,

*Fl. Chil.* 4, p. 103, t. 45, &

*Ann. Sci. Nat. ser. 3.* 12, p.

185.

*Tab. Andes of Chili, on*

*the first Cordillera above Santi-*

*ago.*

Contrary to Dr. Schultze's opinion, it seems

clear that Kunz's second *Arachnia* (*Chilodrichum*, *Arn. l.c.*) was correct when he approximated *Dolichogyne*, DC. to Dr. Hooker's section of *Chilodrichum*,

his genus, *Arachnia*: the error is that he did not combine such

evident congeners. *Dolichogyne*, however, is antedated by *Nardophyllum*;

and it is again remarkable that Dr. Gaudelle, who had estab-

lished the latter genus upon Hooker's and Kunz's data, did not suspect

this subsequent *Dolichogyne*. This, probably, was because the type as-

cribed to *Nardophyllum* — *aurifera* — *base bisulcata*; or the strength of

an ambiguous expression at the close of Hooker and Kunz's remarks,

and also a pappus plumose; which phrase the latter authors employ in the generic character,

while under the species they more correctly write "pappus subplu-

mosus." The authors, like the Cordillera, B. are strictly *Asteriscus*, and

the sides of the pappus are ~~moderately~~ moderately barbellate, rather than

plumose, ~~toward~~ along their upper part. As in many *Asteriscus*,

some of the stronger bristles are more or less thickened or ~~dilated~~

clavellate-dilated towards the summit. *Neddell* extends the

genus so as to include (in his section *Tola*) three species with

heterogamous flowers, the pistillate ones incipiently ligulate. The

most ~~may be no very~~ serious objection to this view is that the whole

genus must then merge in *Lepidophyllum*, *Bar.*, which

differs only in having the ligules

a little more developed, yet

often bilabiate, and the pappus of

shorter bristles. The leaves of

*Lepidophyllum cypripifolium*, ~~indeed~~

indeed, are opposite; but they are

both opposite and alternate in

the nearly allied South African

genus *Scleraria*; and the difference

between *L. cypripifolium* and

*L. Meyeri* (*Bracharia quadrangulata*, *Moench*) *Dolichogyne lepidophylla*, *Nedd.* is paralleled in *Scleraria* in *Aplopappus*, &c. and cannot justify this combination. I should there-

fore propose to keep up the two

genera, *Lepidophyllum* and *Nardophyllum*, (and refer to the former

*Neddell's Dolichogyne lepidophylla*, which he has figured, and probably

his *D. rigida* and *D. rupestris*, with

linear leaves. To *Nardophyllum*

belongs *N. Kingii* (*Chilodrichum Kingii*, Hook. f.) *Arachnia Hookeri*, Kunz, which is a strict con-

gener of *N. revolutum*, and *the* following, of which I have no

specimens to examine; viz. *N. humile*, *Chilodrichum humile*, Hook. f., *Arachnia Hookeri*, Kunz), *N. Darwinii*, *Chilodrichum Darwinii*, Hook. f., and *N. chilodrichoides* (*Dolichogyne chilodrichoides*, Kunz), species apparently very

close, related and perhaps not all sufficiently distinct. *Neddell's Dolichogyne armata*, with the

branches of the style subspatulate and obtuse, appears doubtful. The nearest relatives of both genera, if we may thus distinguish them,

occur in the corresponding cool and dry portion of the northern part of the American continent, where they constitute distinct features in the vegetation, i.e. are ~~seen~~ mostly social frutescent plants on naked plains or plateaux, — *Stallard's Chrysomammus* (section of *Linosyris*, Torr. Gray, strictly representing *Nardophyllum*, and his *Ericameria* being being ~~so~~ considerably anal-

ogous to *Lepidophyllum*. Taken in connexion with geographical distribution, slight characters, drawn from the pappus (though weakened in *Linosyris*, *Chrysomammus*, *Brigelowii*) and in the style may serve to keep separate our North American species, but in a general system it will be hard to find adequate generic distinctions.



Aplopappus, (Bass.)

Aplopappus (excl. sect. Leucopis & Pyro-  
chata) & Pyrroneura, Stb. Prodr.  
5, p. 345, 350.

1. Aplopappus pulchellus, Stb.

Aplopappus pulchellus, Stb. Prodr. 5,  
p. 347; Remy in Gay Fl. Chil.  
4, p. 51

~~Leucopis~~

Grindelia pulchella, Bert. in Merc.  
Chil. 1829, & coll.

Diplopappus Dorianus, Hook. & Arn.  
in Comp. Bot. Mag. 2, p. 47.  
D. glutinosus, Papp.; Less. in Linnaea, 6, p. 113?

Var.  $\beta$ . Canescens: foliis canescenti-lanu-  
ginosis. demum glabratis

Diplopappus canescens, Hook. & Arn. in  
Comp. Bot. Mag. l.c.

Aplopappus uncinatus, Philippi in Linnaea, 28, p. 110  
728.

Hab. Chili, near Valparaiso;  
both the smooth and the canescently  
downy forms

2. Aplopappus glutinosus, Bas.? Sc.

Hab. Chili, on the lower Andes  
near Santiago: a single, imperfect  
specimen.

This is, apparently, both DeCandolle's A. glutinosus (Diplopappus glutinosus Paeppig and Lessing, and certainly that of Hooker and Arnott), and also Bertero's Grindelia glutinosa, the type of A. Berterii, Sc. It must include A. sero-  
biculatus, Sc. (Diplopappus sero-  
biculatus of Ares), also A. Diplo-  
pappus and A. velutinus of Remy, <sup>with apparently</sup>  
reticulatus, illinitus, sp. of Philippi,  
and through A. grindelioides, Sc.,  
at least of Remy, it probably passes  
into the following.



3. Aplopappus macrocephalus, Db.

Hab. Chile; between Valparaiso  
and Santiago.

The specimens belong to a small-leaved form of A. macrocephalus, Db., - ~~at~~ least to Bertero's no. 315 - and probably to Diplopappus macrocephalus of Pappig and Lessing, but not of Wotter and Knott. They accord with the D. inuloides of the latter; also with the character of A. curvifolius, of Nuttall. It is a dwarf species, ~~commonly~~ <sup>commonly</sup> differing from A. glutinosus in the squarrose involucre, and the more numerous, aristately spinulose teeth to the leaves. A. griseoides appears to be intermediate.

4. Aplopappus densifolius, Kemy,

Aplopappus densifolius, Kemy in Gay,  
Fl. chil. 4, p. 53

A. glabratus, Philippi, in Linnaea, 28,  
p. 726?

Dipslopappus bellidifolius, Hook. & Arn.  
Bompe. Bot. Mag. 2, p. 46.

Ital. Andes above Santiago, Chili.  
Very imperfect specimens; perhaps very  
reduced A. glutinosus.

Aplopappus Poeppigianus, var. radiatus.

A. humilis, fruticosus; foliis secus  
ramos breves confertissimis an-  
guste lanceolatis rigidis utrin-  
que attenuatis cuspidatis inte-  
gerrimis ~~und~~ undique seri-

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cis; pedunculis elongatis  
nudis parce setaceo-bractea-  
tis monocephalis; involucri  
~~squamis~~ hemisphaerici squamis  
lineari-subulatis glanduloso-  
puberulis, apicibus squarrose-  
patentibus; ligulis discum  
vix superantibus; acheniis seri-  
cis.

Bot. Mag. 2, p. 47 (forma eradiata)

Diplopappus Poeppigianus, Hook. & Arn. Comp.  
Diplopappus sericeus, Philippi in Linnaea, 28, p. 724.

Hab. Chili, on the Andes  
above Santiago.

The Diplopappus Poeppigianus of Hooker and Arnott,  
~~in Comp. to Bot. Mag. loc. cit. 47,~~  
is not so dwarf as the present  
specimens, the involucre is not  
squarrose, and the rays are appa-  
rently wanting. Otherwise they  
are similar, and evidently both  
belong to the same species;  
which is well marked by its



rigid, entire, lanceolate, silvery-sericeous and Protea-like leaves, crowded on the short and tufted woody branches. Peduncles solitary, <sup>slender</sup>, 3 to 5 inches long, naked, except a few setaceous bracts. Head rather larger than in *A. pulchellus*, to which the species is related. Scales of the involucre numerous, narrowly linear-subulate, puberulent and glandular-viscid, with slender spreading tips. Rays 20 or 30, only 2 or 3 lines long, yellow. Pappus yellowish-brown. Philippi seems to have found it with rays and with the involucre not squarrose.

b. Aplopappus foliosus, DC.

Aplopappus foliosus, DC. Prodr.,  
5, p. 346; Kuntz in Fl. chil.,  
4, p. 42.

A. Kungifoanus, Kuntz, l.c. p. 43.

A. polyphyllus, Philippi, in Linnaea,  
Diplopappus foliosus, Hook. &  
 Arn. Comp. to Bot. Mag. 2,  
 p. 45.

Hab. Valparaiso, Chili.

7. Aplopappus ilicifolius, Kuny.

Aplopappus ilicifolius, Kuny in  
 Gay, Fl. Chil. 4, p. 55.

Diplopappus ilicifolius, Hook.  
 & Arn. Comp. Bot. Mag. 2, p.  
 46 (Sphalm. 'foliosus') & p.  
 253.

D. mucronatus, Hook. & Arn. l.c.  
 et

Baccharis mucronata, Hook. &  
 Arn. Bot. Beech. Voy. p. 30.  
 (B. Stokeriana, DC. Prodr.  
 5, p. 414.)

Hab. Chili, near Valparaiso.

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The imperfect specimen belongs to Diplopappus mucronatus, Hook. & Arn., but it appears to be only a form of their D. ilicifolius. This answers to Remy's Aplopappus ilicifolius, the radiate state (which A. Stelliger, Remy, is probably a narrower-leaved variety), and apparently to his Pyrrocoma ilicifolia and P. saxatilis, the rayless state.

8. Aplopappus Macraeanus.

Pyrrocoma (Chromochata) <sup>angustifolia</sup> ~~rayless~~  
tifolia, DC. Prodr. 5. p. 351;  
Remy in Fl. Chil. l. c. p. 63.  
P. Macraeana, Remy, l. c. p. 64?

Hab. Andes above Santiago, Chili.  
Also collected by Macrae. (Hab. Hook.)

Distinguished from the foregoing by the narrower, apparently always



rayless heads, with more coriaceous and nearly marginless scales of the involucre, and by the glabrous achenia. A. parvifolia (Pyrocoma angustifolia parvifolia, Deb. l.c.), although nearly related, is well distinguished by its smaller leaves and heads, the latter with narrower and much thinner, acutish involucral scales. As the name angustifolia would have little appropriateness <sup>in Apocynaceae</sup>, the present species may take the name of <sup>one of</sup> its discoverers. ~~For DeCandolle's A.? (Pyrocheta) Harkn. is Crotonogynia filaginifolia, doubtless from California.~~

The genus Pyrocoma cannot be sustained upon the rayless head, as DeCandolle and Remy have endeavored to do; for, besides the fact that intimately related and even identical species

of Aplopappus are both radiate  
and rayless, ~~I find~~ the original  
Pyrocoma has rays, as I  
have long ago shown. The shape  
and the smoothness of the achenia  
also fail as characters, and  
the broader involucral scales  
furnish no definite distinction.  
The pappus of St. ~~Henkeanus~~ <sup>Macraenus</sup> is  
sometimes only fulvous, sometimes  
deeply rufous.

Aplopappus? (Pyrochata).  
Henkei, D.C., I have ascertained to  
be Erithryne filaginifolia;  
doubtless it was collected in Cali-  
fornia.

Neja, Don, D.C.

1. Neja linearifolia, D.C.

Diplopappus hispidus, <sup>Gillies;</sup> Hook. & Arn.  
in Comp. Bot. Mag. 2. p. 48.

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Ital. Rio Negro, North Patagonia.

Chrysopsis, Nutt.

1. Chrysopsis (Leucopsis) vestita.

Diplopappus vestitus + D. candidus,  
Willies, Donin' Comp. Bot. Mag.  
2, p. 48.

D. sericeus, Hook. & Arn. l. c. pro  
p. Patagon. B., non Less.

Aplopappus? (Leucopsis) acuminatus,  
Bl. Prodr. 5, p. 348.

Ital. Rio Negro, North Patagonia.

This is distinct, as I suppose, from  
the Chilean Diplopappus sericeus of  
Lessing, which seems to be the same as  
Synberis ~~argenteus~~ argenteus, Nees's A.  
~~sericeus~~ marginatus, var. argenteus.  
The latter has purple rays, a ferru-  
gineous pappus, ~~and~~ rather obtuse



scales of the involucre, and a close, silky-canescant pubescence. It is probably specifically distinct from A. marginatus. The present plant is very lanuginous, has the scales of the involucre acuminate; the rays not longer than the fulvous pappus, and apparently yellow; and the flat, obovate-oblong achenia are striate, as in Chrysopsis mollis. An exterior portion of the bristles of the very copious pappus are short, ~~but~~ <sup>and forming a distinct series,</sup> not squamulate-setose, as in true Chrysopsis, but just as in C. (Leucopsis) canescens. ~~It is~~ <sup>It is</sup> with which it may very well be associated if the ligules are really yellow. If not, it is a Noticastrum, but hardly an Aster.

Spharanthus, Vaill., Linn.

1. Spharanthus microcephalus, Willd.

Stat. Luzon, near Manila.  
(Heads 4 to 6 lines in diameter.)

Dichrocephala, L'Her., Db.

1. Dichrocephala latifolia, Db.

Stat. Samoan Islands, Probably  
adventive from Eastern Asia. It  
has also been picked up at Tahiti.

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Baccharis, Linn.

~~The greater part of the species of  
this collection, being well known, need  
only to be enumerated.~~

1. Baccharis Lundii, Dc.

2. Baccharis cinerea, Dc.

3. Baccharis dracunculifolia, Dc.

4. Baccharis montana, Dc.

5. Baccharis trimera, Dc.

Ital. Brazil, near Rio Janeiro,  
or in the adjacent Organ Mountains.

There is a form apparently of  
B. montana with glabrate leaves,  
which is B. semiserrata, Dc. no. 38,



(not the homonymous no. 149),

changed to B. hemiprionodes by  
Bick, a name which will  
hardly be ~~suggested~~ required. —  
<sup>which is B. laxa of Gardner,</sup>  
B. cinerea, is probably only a variety  
of B. trinervis.

6. Baccharis crispa, Sprang.

Hab. Rio Negro, North Patagonia;  
on the plains. Not in flower.

7. Baccharis juncea, Desf.

Hab. Rio Negro, North Patagonia.

This well-marked species, described by Hooker and Arnott under the name of B. subulata, Don,

is truly the B. juncea of Desfontaines, and of DeCandolle. The stems in our specimens are rather leafy, and their base so lignescient that the root would seem to be perennial.

Gilliesii,

8. Baccharis ~~Frederiana~~ ) sp. nov.

B. herbacea e basi lignescente,  
glabra, humilis; caule ramosissi-  
mo; ramis corymbosis gracilibus  
striato-angulatis foliosis, ultimis  
capitulo solitario terminatis;  
foliis sessilibus leviter uninerviis  
aveniis, <sup>caulinis</sup> linearibus basi attenu-  
atis integerrimis seu dentes 2-4  
patentes gerentibus, ramealibus par-  
vis angustissimis; involucrio cam-  
panulato, squamis oblongis obtu-  
errimis coriaceis dorso herbaceis

marginem tenuiter scariosis apice  
lanoso-ciliatis; achenis gla-  
berrimis; pappo femineo invo-  
lucrum ter superante.

var. B.)  
*Baccharis paucidentata*, Hook.  
& Arn. Jour. Bot. 3. p. 37:  
Pl. mass.

Stat. Rio Negro, North Pata-  
gonia. Also gathered by Tweedie,  
and at Buenos Ayres by Gillies.

One specimen of this in the  
Hookerian herbarium is ticketed  
'*B. nana*, Don', - a name which  
I do not <sup>propose to</sup> revive, as the stems are  
a foot high when well developed;  
although depauperate ones do  
not surpass three or four inches.  
Hooker and Arnott, having only  
~~the~~ male specimens, confounded  
the species with *B. paucidentata*  
Lb. From that species it is well



distinguished, however, by its solitary head (not subspicate or racemose-fasciculate) <sup>and</sup> its campanulate involucre, with broader and very obtuse scales. The stems and branches are rigid but slender, scaparius. The larger leaves less than an inch long and less than two lines broad, usually bearing one or two pairs of coarse and salient teeth; the upper and ramal leaves 2 to 5 lines long, very narrowly linear or setaceous-filiiform. Heads terminating the branchlets, large for the size of the plant; involucre 2 to 3 lines long, the scales thick and broad. Pappus ~~long~~ tawny or ferruginous, becoming half an inch long in the female head. Achenia slender and glabrous. — *B. coridi-  
folia* has clustered and much smaller heads <sup>and</sup> scabrous-ciliate leaves.

9. Baccharis leptophylla, St. L. C.

Var. <sup>B.</sup> rarifolia: ramosissima; ramu-  
lis fere herbaceis; foliis raris  
aut nullis.

Baccharis rarifolia, Stork. &  
Arn. in herb. Stork.

B. genistifolia, <sup>pro parte</sup> ~~Stork.~~ Stork.  
& Arn. Jour. Bot. 3, p. 40.

Hab. Rio Negro, North Patagonia. ~~Also Buenos Ayres, Tweedie.~~

This is doubtless DeCandolle's  
B. leptophylla in a ~~leafless~~ leafless  
state, as in our specimens (which  
have solitary heads), or sparingly leafy  
as in Stork's from Tweedie. The heads  
are larger than in B. genistifolia but  
smaller than in B. aphylla, also very narrow  
and few-flowered; the inner scales elongated  
and narrow; no chaff on the receptacle.

Ann. l. c. 3120  
~~Ann. l. c. 3120~~

10. Baccharis Darwinii, Hook. & f.

Stat., Rio Negro, North Patagonia.

The determination is uncertain, and the specimens are not complete; but they accord very well with the character of the above species, except that the plant is glabrous throughout. The scales of the involucre are lanceolate and very acuminate, and broadly scarious.

Ann. l. c.

11. Baccharis ulicina, Hook. & f.

Stat., Rio Negro, North Patagonia.



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Am. l.c.  
Work. 4  
h

12. Baccharis tenella, Work. 4

Hab. Rio Negro, North Patagonia,  
Scanty specimens were gathered of  
this and the preceding, both well-  
marked species.

l.c.  
Deb. 1

13. Baccharis genistefolia, Deb. 1

Heterothalamus spartioides, Work.  
X. Ann. Jour. Bot. 3, p. 43.  
Baccharis spartioides, Remy in Gay Fl. Chil. 4, p. 102.

Hab. Rio Negro, North Patagonia.

Broom-like

Forms dense tufts, one or two  
feet high, either leafless or with a  
few scales, or with some scattered  
linear or subulate leaves. Heads small;  
some chaffy scales among the flowers  
as in certain other species of Bac-  
charis.

14. Baccharis Patagonica, <sup>Arn.</sup> Stork &

Baccharis Patagonica, Stork & Arn.  
Journ. Bot. 3, p. 29; Stork. f. Fl.  
Antarc. 2, p. 308.

Stat. Orange Harbour, Fuegia.

A depressed evergreen shrub.  
Well characterized by the authors  
above cited; except that the heads  
of the female plant (which alone  
occurs in the present collection)  
are terminal, sessile at the sum-  
mit of the ~~very~~ stout and very  
leafy branchlets; at maturity they  
are nearly half an inch in length,  
hemispherical, closely subtended by  
the leaves. Achenia glabrous. Pappus  
tawny, 3 lines long. It is probably  
a higher developed state of B.  
Magellanica.

Baccharis concava, <sup>Pers.</sup> ~~Desf.~~

Molina concava, Ruiz & Pav.  
Syst. Veg. Per. & Chil. p. 206.  
Baccharis tridentata, <sup>ta</sup> Poepp. & Endl.  
Chil., non Vahl.

B. sinuosa, Hook. & Arn. Bot. Beech.  
Voy. p. 31, non H. B. K.

B. concava, Pers. Syn. 2, p. 424.

B. concava & B. Poeppigiana,  
Desf. Prodr. 5, p. 410, 411; Hook. &  
Arn. Jour. Bot. 3, p. 31.

B. Macraei, Hook. & Arn. l. c. p. 32.

B. intermedia, Desf., l. c. ? Hook. &  
Arn. l. c. ? ~~forma minor angustifolia~~

B. Solieri? (forma angustifolia, ~~inter-~~  
interm. capit. pedunc. parvis, =  
B. intermedia, Desf. ?) & B. rhomb-  
oidalis, Kuny in Gay, Fl.  
Chil. 4, p. 98.

Stat. Chili, in the vicinity of  
Valparaiso. (The different forms  
described under a variety of names,



of which the oldest is "a very bad one, and only tends to mislead," as Storker and Knott have remarked.)

16. Baccharis Beranilleana, Remy, <sup>L.G.</sup>

Hab. Andes of Chile above Santiago. (First single specimen of the female plant; apparently belonging to the above species. of which the male only was known.)

17. Baccharis rosmarinifolia, <sup>Stork. & Kn.</sup>

Hab. Chile, near Valparaiso, and also at Santiago; also the var. subsinuata, from the vicinity of Valparaiso.

The variety, a dwarf state, with sinuate or toothed leaves, may be DeCandolle's *B. intermedia*, but it belongs to the present species. This is very distinct from the following, under which Hooker and <sup>in the *Journal Botanique*</sup> Krantz have, through some confusion, cited their own much earlier name of *B. rosmanii-folia* as a synonym. <sup>(rightly distinguished in Bot. Beechey Exped.)</sup> The involucre is well imbricated, and the <sup>fulvous soft</sup> pappus of the female flowers becomes fully half an inch long. Stem woody.

18. Baccharis paniculata, DC.

Hab. Chile, in the vicinity of Valparaiso.

Less woody than the foregoing, with a different foliage, and with very ample lax panicles of smaller

heads, a laxer involucre. Pappus of the female flowers fus-  
cous or ferrugineous, barely three  
lines long. It is B. Pingraea  
of the Flora Chilena, at least  
in good part, and it is B. linearis Hook.  
& Arn. Bot. Beech. Voy. p. 57 (though the leaves  
are not toothed), where it is confounded with the  
following.

19. Baccharis linearis, Pers.

Molina linearis, Ruiz & Pav.  
Syst. Veg. Per. & Chil. p. 205,  
ex char.; Less. in Linnaea, 6,  
p. 139?

Baccharis linearis, Pers. Syn. 2,  
p. 425; Bertero, Coll. Chil. in  
Spreng. Syst. 3, p. 463; Hook. &  
Arn. Bot. Beech. p. 57,  
Arn. fide pro parte.

B. angustifolia, Desf. Cat. Hort.  
Par. ed. 3, fide DC.

B. Pingraea, DC. Prodr. 5, p. 420.  
(Pingraea angustifolia, Cass. ex DC.)



B. Pingra & B. serulata var.  
B. (stenophylla), Hook. & Arn.  
Ann. Bot. 3. p. 23.

~~B. gracilis, A. L. Prodr. 8. p.~~  
B. Stuebeliana, Kemy in  
Fl. chil. 4. p. 90.

B. Pinilloriana, Kemy in herb.  
Fl. chil.

Hab. Near Valparaiso and  
near Santiago, Chile, Rio  
Negro, North Patagonia.

As this common species  
best accords with the original  
Molina linearis, and was taken  
for it by Bertero, Poeppig, and  
Lessing, it may advantageously  
be adopted now, that the synony-  
my has to be extended, as above.  
It is an herbaceous or barely  
suffrutescent species, with rather  
few and small heads in a loose  
corymb at the ~~stem~~ <sup>apex</sup> naked

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extremity of the slender branches.  
The upper leaves are often nearly  
filiform; the lower commonly  
linear-lanceolate, more or less  
three-nerved, and denticulate or  
or, ~~more~~ strongly dentate with  
a few salient teeth.

Hook. & Arn.

20. Baccharis glutinosa. Pers.

Stat. Chili, around Valparaiso.  
The var. angustifolia, with elongated  
~~linear~~ lanceolate-linear leaves,  
the upper narrowly linear, the  
B. marginalis of De Candolle. To  
this belongs B. confertifolia, Colla, or at least  
of Kuny, and B. chilquilla of De Candolle.

21. Baccharis Feuillei, DC.

Stat. Peru, in the vicinity of  
Callao and Lima; also near Obajillo.

This is the Chilca of <sup>Feuillee</sup> ~~Feuillee~~ 2. t. 37, which DeCandolle <sup>erites</sup> like-  
wise und B. glutinosa. Perhaps  
it is only the broadest-leaved, as  
B. marginalis is the narrowest-  
leaved form of B. glutinosa.

22. Baccharis racemosa, DC.

Hab. Chili, near Valparaiso and  
Santiago; ~~with~~ <sup>both</sup> the narrow-leaved  
~~variety~~ form described by Hooker  
and Arnott (Molina racemosa, Ruiz  
and Pavon), and the rigid, broader-  
leaved form (Molina sessilifolia,  
Less., and B. rigida, Hook. & Arn.).

23. Baccharis sagittalis, DC.

Hab. Vina la Mar, Valparaiso, Chili.  
With the leaves minute.



24. Baccharis genistelloides, Pers.

Baccharis genistelloides, Pers. Syn. 2,  
p. 425; H.B.K. Nov. Gen. & Spec.  
4, p. 67; DC. Prodr. 5, p. 424;  
Wedd. Chl. And. 1, p. 177.

B. genistelloides, β. venosa, Hook,  
Bot. Misc. 2, p. 224, t. 94.

B. venosa, DC. l.c. p. 425.

Stat. Baños, Andes of Peru.  
(The form figured by Hooker.)

25. Baccharis floribunda, H.B.K.

Stat. Obrajillo, Peru. (Leaves  
less acute than in Kunth's figure.)

26. Baccharis lanceolata, H.B.K.

Baccharis lanceolata, H.B.K. Nov. Gen.  
& Spec. 4, p. 63; Wedd. l.c. p. 176.

B. salicifolia, Pers. Syn. 2, p. 425?  
nuncpe Molina salicifolia, Ruiz  
& Pav.?

Stat. Peru, between Obrajillo  
and Cullmay. The same collected  
by Matthews near Purruchuca.

27. Baccharis prostrata, Pers.

Molina prostrata, Ruiz & Pav.  
Syst. p. 204.

Baccharis prostrata, Pers. Syn. 2,  
p. 424; DC. Prodr. 5, p. 406.

B. oblusifolia, H. B. K. Nov. Gen.

& Spec. 4, p. 51?  
B. microphylla, H. B. K. l.c. p. 55; DC. l.c.?

B. microphylla B. ~~linearis~~ linearis

Wedd. Chl. And. 1, p. 170, t. 29?

Stat. Andes of Peru, between  
Obrajillo<sup>or Baños</sup> and Cullmay (a larger,  
erect form), and from Cullmay to  
Casa Blanca, a depressed spread-

ing and subprostrate form; doubt-  
less, from the character and the  
habitat Molina prostrata of  
Ruiz and Pavon. Heads larger  
than in B. microphylla, and the  
pappus of the female ferrugine-  
ous or tawny; (~~no. 630 and 558~~  
~~of Matthews.~~) but it ~~perhaps~~  
probably includes that species also.

29. Baccharis caespitosa Pers.

Molina caespitosa, Ruiz. & Pav.  
Syst. p. 203

Baccharis caespitosa, Pers. Syn.  
2. p. 425.

B. alpina & humifusa, H. B. K.  
Nov. Gen. & Spec. 4. p. 48, t. 322.

B. alpina Wedd. Chl. And.  
1. p. 168, t. 28.



Stat. High Andes of Peru,  
above Baños, at Casa Blanca,  
and Alparamarca.

This is doubtless Peruvian B.  
caespitosa, <sup>or</sup> Molina caespitosa of  
Ruiz and Pavon, whose appro-  
priate specific name need not  
be passed by. ~~It is much~~ Our  
specimens are all much condensed  
and caespitose, smaller in all its  
parts than B. alpina of Kunth,  
rarely over two lines in length, and  
much crowded or even imbricated on  
the branches. They are not to be  
separated from the smaller forms  
of B. alpina as understood by  
Nuttall, ~~and also~~ which includes  
B. humifusa as a larger variety.

Coryza, Linn.

1. Coryza balsamifera, Linn.

Hab. Baños, Luzon, Philippine  
Islands.

2. Coryza appendiculata, Blume.

Hab. Mountains of Muthrata,  
one of the Feejee Islands. Perhaps  
only a variety of the foregoing.

Blume Milnei, Blume.  
3. Coryza sylvatica, Blume?

Hab. Ovolan, Feejee Islands.  
(The determination doubtful, not having  
seen the Javan species.)

of Blume Milnei, Blume, Milnei.

in my herbarium and others.

4. Gonyza hirsuta, Linn., ~~Less.~~  
Pluchea hirsuta, Less. in Linnaea, 6, p. 150; DC. Prodr. 5, p. 453.

Hab. At Caldera, Mindanao,  
one of the Philippine Islands.

5. Gonyza Indica, Blume.

Hab. Philippine Islands; with  
the preceding.

Pluchea, Cass.

1. Pluchea Chingoyzo, DC.

Gonyza Chingoyzo, H. B. K., Nov. Gen.  
& Spec. 4, p. 76, t. 328.

Hab. Yanga, Peru. Common  
as far as to Pasto, where, according  
to Prof. Jamerson, it abounds, forming a



shrub of considerable size and  
covering large tracts of ground.

2. Pluchea Lutea, Sw.

Hab. Rio Janeiro, Brazil;  
where it is very common.

Pterocaulon, Ell., Sw.

1. Pterocaulon angustifolium, Sw.

Hab. Vicinity of Rio Janeiro, Brazil;  
in marshes.

The specimens are of a <sup>(rather</sup> broad-leaved  
form, and the species apparently will  
include both P. interruptum and P.  
spicatum.

Tessaria, Ruiz & Pav.

1. Tessaria integrifolia, <sup>Pav.</sup> Ruiz & Pav.

Hab. Callao, Peru.

The original specific name, needlessly superseded by Lee Candolle, is an appropriate one, the hoary leaves being entire or barely repand-toothed. ~~It with~~ The species includes T. mucronata, Lb., as well as T. legitima, Lb.

2. Tessaria absinthioides, Lb.

Hab. Chili, at Valparaiso, (where it abounds), and Santiago.

Eclipta, Lin.

1. Eclipta alba, Stassk.

Cotula alba, Lin., Syst. Nat. 2,  
p. 564, et Verbesina alba, Lin.

Eclipta alba, Stassk., Pl. Jav. Kar.  
p. 528; Miq., Fl. Ind. Bat.  
2, p. 65.

E. erecta & E. prostrata, Lin.  
Mant. p. 216, etc.

E. procumbens & E. brachypoda,  
Nichx., Fl. 2, p. 229.

Hab. Rio Janeiro; Lima  
and Bullao, Peru; and Sandal-wood  
Bay, Feeje Islands; the var. erecta,  
Ovolau, Feeje Islands; and Luzon  
near Manilla; the var. prostrata,  
Hunter's River, New South Wales; a  
slender intermediate form.



Blainvillea, Cass.

1. Blainvillea rhomboides, Cass.

Stat. St. Jago, Cape Verde  
Islands,

Both the typical form and  
the variety lanceolata. Probably  
introduced from Brazil. Not before  
recorded from the Cape Verde Islands,  
where B. (Cronocarpis) Gayana  
is said to abound. I have not  
the latter for comparison, but our  
specimens accord with Brazilian  
B. rhomboides.

Siegesbeckia, Linn.

1. Siegesbeckia orientalis, Linn.

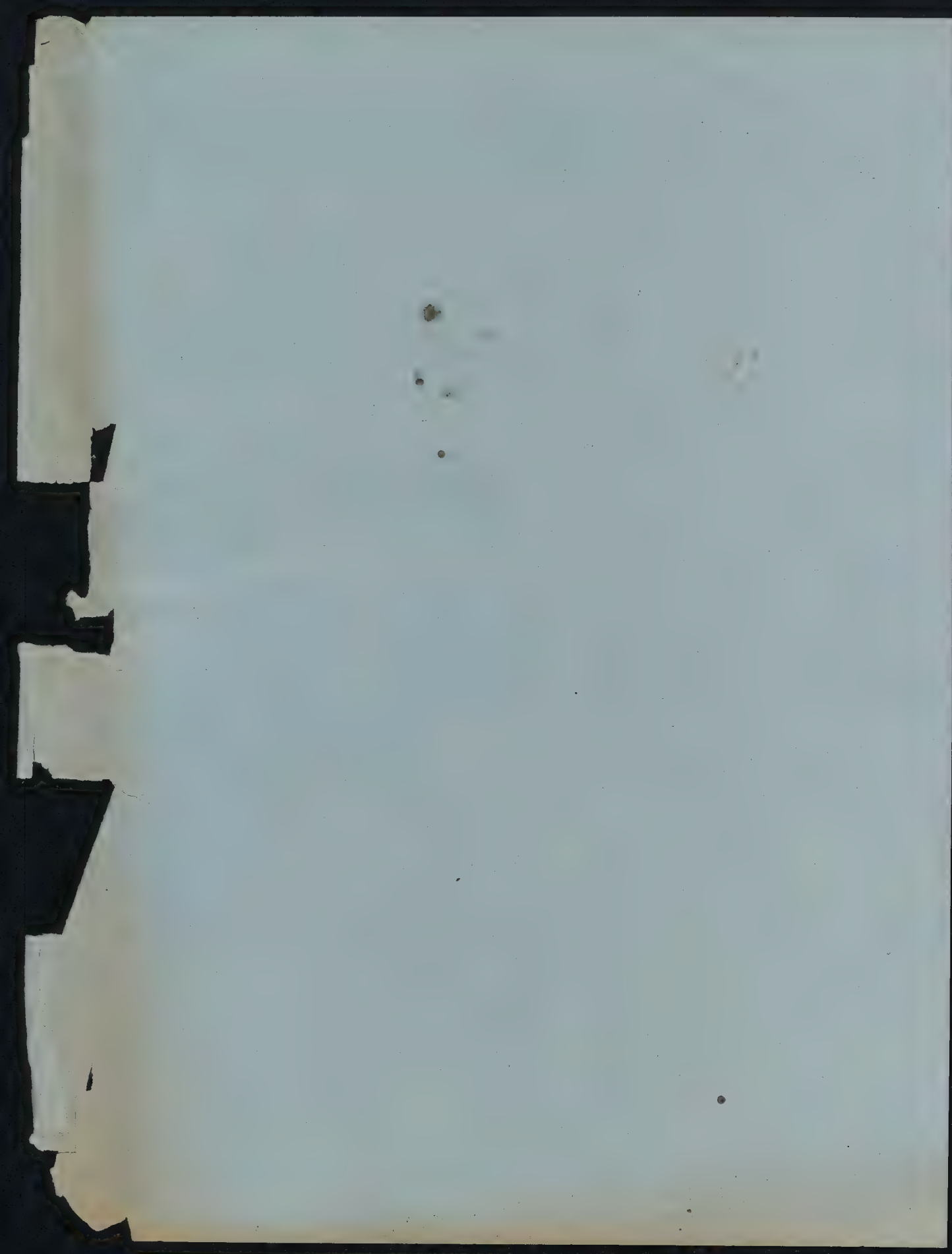
Hab. Society, Samoan, and  
Tonga Islands: probably adventive.

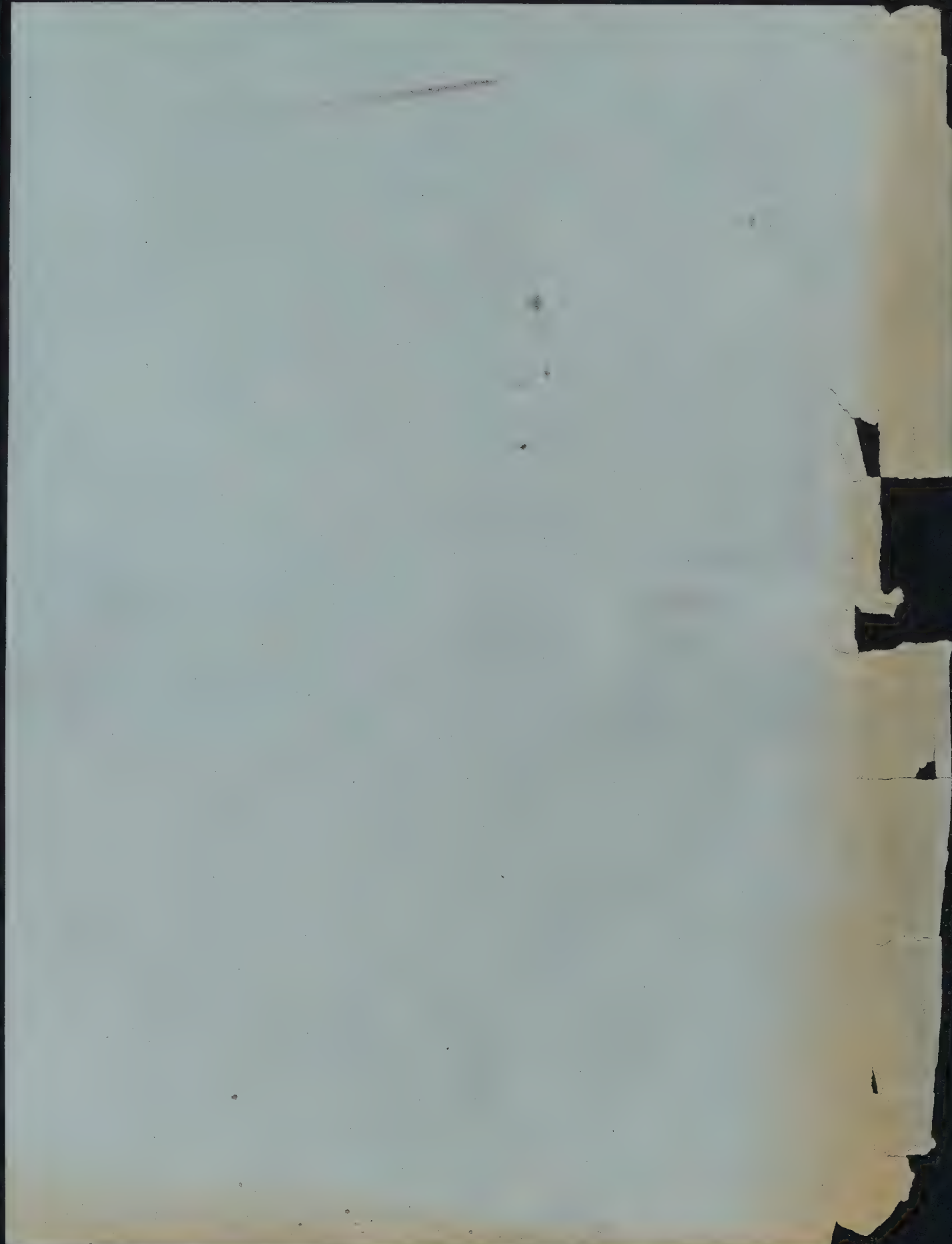
2. Siegesbeckia microcephala, DC.

Hab. Hunter's River, New South  
Wales: a variety with the larger  
leaves lacinate-toothed. A form  
nearer the type of the species is in  
the collection, ticketed as from the  
Bay of Islands, New Zealand; but  
I suspect it to be Australian.

~~Diego de la Cruz, Lima.~~  
~~N. diego de la Cruz, Lima.~~  
~~Val. Society, Darwin, and~~  
~~Tonga Island. The day of~~  
~~Island, New Zealand, a firm with~~  
~~narrower, almost entire leaves.~~







Euxenia, Cham.

1. Euxenia Mitqui, Db.

Hab. Chile, common at Valparaíso and Santiago.

Polymnia, Linn.

1. Polymnia Siegesbeckia, Db.

Hab. Brazil, near Rio Janeiro.  
(A true Polymnia.)

2. Polymnia glabrata, <sup>tifolia, Db.</sup> var. angustifolia

Hab. Peru, near Obrajillo;  
and at Cullmay, the variety  
angustifolia.

The larger plant is a shrub,



from 12 to 18 feet high, according  
to Dr. Pickering's notes; the leaves  
auriculate-clasping at the base;  
the rays short and yellow. The  
size of the smaller and narrow-  
leaved plant was not recorded.  
Hooker's specimens were probably  
gathered in Peru, not in Chile.

Battimora, Linn., Steetz.

Battimora & Fougeria, Moench,  
Meth. p. 592, & Suppl. p. 243.  
Scolospermum, Less. & Fougerouxia,  
De Prov. 5, p. 509

1. Battimora recta, Linn.

Hab. Rio Janeiro, Brazil. A  
native of Tropical America.

Acanthospermum, Schrank.

1. Acanthospermum <sup>Schrank.</sup> Brasilium,

Acanthospermum Brasilium, Schrank,  
Pl. Rar. Hort. Monac. t. 53.

A. Xanthioides & A. hirsutum, DC.  
Prodr. 5, p. 522.

Centrospermum Xanthioides, H.  
B. K. Nov. Gen. & Spec. 4, p. 271,  
t. 397.

Hab. Rio Janeiro, Brazil.  
Common in Tropical America; it  
has also found its way to the  
Sandwich Islands.

2. Acanthospermum hispidum, DC.

Hab. Around Callao, Peru. The  
only station as yet recorded on the  
western coast of America. But such  
bars are likely to be <sup>(disseminated)</sup> ~~diffused~~ widely.

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Ambrosia,ourn.

1. Ambrosia tenuifolia, Sprng.

Ambrosia tenuifolia, Sprng, Syst.  
3. p. 851; Ob. Prodr. 5. p. 527.

A. puticosa, var. intermedia, Ob. l.c.  
p. 526.

Hab. Rio Negro, North Patagonia,  
Also collected at Montevideo by Com-  
merson, Capt. King, Isabelle, &c. as  
well as by Sellow. The stem is  
hardly woody, but the root is

perennial. DeBurdoll's A. puticosa from Tamaulipas is Frank-  
linia tenuifolia, var. tripinnatifida, Gray, Pl. Wright. It  
extends from the Gulf of Mexico to California, and Gray has  
collected it at the Sandwich Islands.  
2. Artemisia Peruviana, Willd.

Hab. Callao and Lima, Peru.  
Unless the root is truly perennial,  
probably not distinct from A. artemisi-



It is proposed to set up the Boston Reading  
in Cambridge for Nov. 18th, 18th, & 19th.  
for Sunday & Monday Eve. Dec. 18th, & 19th.  
The first reading at Mrs. Frothingham's, Quincy St.  
Tuesday Eve. Dec. 18th, at 8 o'clock.  
The lecture for the two readings -

afolia (including ~~to which belongs~~ A. hetero-  
phylla, Muhl. and A. paniculata,  
Michx.), to which I <sup>should</sup> refer an  
undeveloped specimen in the col-  
lection from Rio Janeiro.

Hantheium, Tourne.

1. Hantheium strumarium, var. echinatum

Hantheium strumarium, var. echi-  
natum, Gray, Man. Bot. N. H.,  
S. ed. 2, p. 213.

H. echinatum, Murr. in Bonn.  
Goett. b. p. 32, t. 4; Torr. & Gray,  
Fl. N. Amer. 2, p. 294.

H. maculatum, Raf. in Sill,  
Journ. 1, p. 151.

H. macrocarpum, DC. Fl. Terr.  
Suppl. p. 356, & Prodr. 5, p. 523.

H. orientale, Linn. f. Dec. p. 33, t. 17;  
Garten, Fruct. t. 164.

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Hab. Rio Negro, North Patagonia, and Hawaii, Sandwich Islands; on the coast.

The specimens are just like those of the coast of the United States. I am convinced that it is only a maritime state of H. strumarium, occurring on the shore in widely separated parts of the world.

Zinnia, Lin.

1. Zinnia pauciflora, Lin.

Hab. Peru, in the vicinity of Otrujillo. (The original species of the genus.)

Jaegeria, H. B. K.

1. Jaegeria repens, DC.

Hab. Brazil, in the Organ Mountains



near Rio Janeiro.

Heliopsis, Pers.

1. Heliopsis canescens, H.B.K.

Hab. Peru, at Obrajillo and  
Baños. (Probably only a variety  
of H. hypochaeroides, which,  
from Dr. Pickering's notes, was  
noticed at Lima, but is not in  
the collection.)

Wedelia, Jacq.

1. Wedelia Acapulcensis, H.B.K.

Wedelia Acapulcensis, H.B.K.,

Nov. Gen. & Spec. 4, p. 215;

Stectr in Bot. Voy. Herald,  
p. 156.

Hab. Callao, Peru.

2. Wedelia scaberrima, Benth?

Wedelia scaberrima, Benth  
<sup>Ann. Bot. Hist. 2, p. 119, &</sup>  
in Hook. Jour. Bot. 2, p. 43.

Hab. Obrajillo, Peru.

The single <sup>flowering</sup> head will hardly  
bear dissection: but the specimen  
accords very well with Schom-  
burgk's Guiana plant, although  
it is likely to belong to some  
other species.

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Mulpia, Necker,

1. Mulpia longifolia, Gardner.

Mulpia longifolia, Gardner  
in Hook. Lond. Jour. Bot. 7,  
p. 293.

Hab. Brazil, in the vicinity  
of Rio Janeiro.

Our specimens accord with  
Gardner's; also with a Brazilian  
specimen in the Hookerian her-  
barium collected by Boiss., and  
another from the Vienna herba-  
rium. I should refer them to W.  
oblongifolia, Db., except that the  
leaves are so much more than  
two inches long and seven lines



broad, and the pungent tips of  
the chaff only slightly recurved.  
Fruiting heads spherical, two-thirds  
of an inch in diameter. Achenia  
fleshy - drupaceous. Ligules ap-  
parently white or ochroleucous.

Sclerocarpus, Jacq.

1. Sclerocarpus Africanus, Jacq.

Hab. St. Jago, Cape Verde  
Islands.

Encelia, Adams.

1. Encelia canescens, Cav.

Hab. Callao and Lima, Peru.  
Also Yanga; two states, one depar-  
tate and the same as E. parvifolia.

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H. B. K.; the other <sup>(densely)</sup> lanate,  
and answering to E. tomentosa  
of Walpers.

An inspection of the specimens,  
preserved in various herbaria, from those  
of Donbey down to those of  
the present collection, leads to  
the conclusion that all four  
species in DeCandolle's Prodro-  
mus are forms of one, which  
varies considerably in the form and  
size of the leaves, and ~~wid~~  
strikingly in the amount and  
character of the pubescence or  
hoariness. For this the specific  
name canescens may be retain-  
ed as being the oldest under this  
genus, but that of californica  
precedes it under Pallasia, and  
Linensis is the oldest of all.

Nuttall's E. californica appears  
distinct at first view by its  
<sup>very</sup> villous involucre and elongated

ligules; but the Chilean E. oblongifolia seems to be truly intermediate. E. hispidula of Andersson, from the Galapagos, looks peculiar and has much smaller heads. E. nivea, Benth., of the southern part of California is truly distinct.

Flourensia, Db.

1. Flourensia thurifera, Db.

Hab. Chile: common in the vicinity of Valparaiso; <sup>also at Santiago.</sup> (Apparently a true congener of the discoid, North Mexican species.)



Lithonia, Desf.

Lithonia et Starpalium sect.  
Starpalizia, Db. Prodr. 5, p. 584.

1. Lithonia sericea.

Starpalium? (Starpalizia) sericeum,  
Db. Prodr. 5, p. 584.

Hab. Peru; near Yanga and  
Orajillo.

A clear congener of Lithonia  
excelsa, Db., and still closer related  
to L. angustifolia, Hook. & Arn. I  
do not know <sup>De Candolle's</sup> Starpalium Mexillense  
and St. aureum; but St. rigidum  
is a true Helianthus, with cadu-  
cous pappus.

2. Tithonia pusilla, Sp. Nov.

T. annua, hispidula; foliis oppositis subalternisve lanceolatis fere integerrimis breviter petiolatis; capitulis nudis pedunculatis; involucri squamis lanceolatis hirsutis subpaucis; achenis villosis; pappi paleis 4-6 aristisque binis plumoso-ciliatis.

Hab. Obrajillo, Peru.

The few specimens are perhaps a depauperate state of a larger plant. The stems are barely a span high, from a slender annual root, either simple and terminated by a single head or with several moncephalous branches, sparsely hispid. Leaves an inch or less

18  
in length, hispid, on both  
sides, not coriaceous, nearly  
destitute of obvious ribs or  
veins, narrowed at the base into  
a short or indistinct petiole.  
Head when in fruit scarcely  
half an inch long. Rays  
few, yellow. Involucral <sup>scales</sup> al-  
most in a single series, erect,  
with slightly spreading <sup>villous-hispid</sup> tips, shorter  
than the disk at maturity.  
Scales of the receptacle oblong,  
thin and membranaceous, striate,  
navicular, cuspidate. Achenia  
elongated cuneate-oblong, 2 lines  
in length, villous with long erect  
hairs. Pappus apparently persist-  
ent, consisting of two or three  
palea on each side and two  
rather stout subulate awns;  
the former oval or oblong, very  
obtuse, of a firm texture, some-  
times coalescent, nearly a line



long, laciniately fimbriate-ciliate at the obtuse or truncate summit; the auricle nearly twice the length of the palea, with fimbriolate-ciliate margins. — The plant has somewhat the aspect of a Simisia, but the characters of a Fithonia.

Niquiera, H.B.K.

1. Niquiera Peruviana. Sp. M.

V. caule erecto adscendente; foliis alternis ellipticis sen ovato- oblongis acutatis vel mucronatis acutis serratis trinerviatis utrinque cinereis supra hispido- scabris subtus appresso- hirsutulis basi acutis sub- similibus; involucri squamis

oblongo-lanceolatis apice  
patentibus extus praesertim  
ad margines albo-hirsutis;  
receptaculo obtuse conico;  
ligulis elongatis; ~~achenis~~  
pappo 4-squamellato hirsu-  
tato.

Stat. Peru, between Obajillo  
and Bulluay.

Stems apparently ascending  
or decumbent, somewhat hirsute,  
leafy; ~~Leaves~~ the base not  
seen. Leaves all alternate in  
the specimens, rather crowded,  
2 inches long, an inch wide,  
or the uppermost smaller, tripli-  
nerved from very near the base,  
somewhat veiny, cinereous above  
with a close and fine scabrous-  
hispid pubescence, and beneath  
with more hirsute hairs, the mar-

gins entire towards the base,  
otherwise serrate or serrulate.  
Heads solitary on short peduncles,  
somewhat globose in fruit, 6 or 7  
lines in diameter. Involucre  
squarrose; the scales imbricated  
in two or three series, nearly equal,  
shorter than the fructiferous  
disk, acute or acutish, hirsute  
externally, or at length only  
hirsutely ciliate. Rays yellow,  
12 to 18 lines long. Achenia  
oblong, fully a line and a half  
in length, villous-pubescent,  
crowned with two subulate awns  
and four short lacinate-fimbriate  
scales which are approximate  
to the base of the awns,  
one on each side, and sometimes  
partly ~~consist~~ adnate to them,  
all apparently persistent or ~~tardily~~  
perhaps tardily deciduous.

Having a squarrose involucre,



17  
This species would fall under  
Leighia of bassini and de Ban-  
dolle, but Gardner has rightly  
referred that genus to Niquiera.  
Harpalium, Bass., however, ought  
not to accompany it, the origi-  
nal species being a good Heli-  
anthus, nor Harpalizia, DC.,  
unless the genus takes in the  
perennial and narrow-leaved  
species of Fitchia also. Heli-  
anthus is marked not by the  
absence of intermediate squamellæ  
so much as by the caducous  
character of the whole pappus.

I suspect that the present  
species is identical with a less  
cinereous plant, in Dombey's  
Peruvian collection, preserved in  
the general herbarium of the Paris  
Museum, ticketed, It<sup>elignanthus</sup> procumben-  
tis affinis, Pers., but I have not  
compared the specimens.

Coreopsis, Linn.; Torr. & Gray,

\* Peruviana (Agaristoidea).

1. Coreopsis (Agarista) Pickeringii, sp. <sup>nov.</sup> n.

C. suffruticosa, fere glaberrima;  
ramis apice longis nudis mo-  
nocephalis; foliis oppositis pe-  
tiolatis tritermatisectis, segmentis  
lineari-subulatis rhachi tenui  
vix latioribus; involucri squa-  
mis exterioribus linearibus.  
interioribus <sup>his</sup> oblongis dimidio  
brevioribus; ~~ligatis (an semper)~~  
~~mutis~~; paleis receptaculi  
oblongis obtusissimis, exteri-  
oribus dorso villosis; acheniis  
lineari-oblongis dorso sub  
palea glabris ~~inter~~ ventre  
et praesertim marginibus  
villosissimis biaristatis;  
aristis villosis-barbellatis corolla  
paullo achenio dimidio bre-  
vioribus.

Hal. Andes of Peru, between  
Obrajillo and Cullmay; also  
at Casa Blanca, according to  
Dr. Pickering's notes.

Stem woody at the base,  
one or two feet high, with <sup>slender</sup> spread-  
ing branches, which are very  
leafy below, their naked sum-  
mit forming a peduncle of 3 or  
4 inches in length, which is  
obscurely pubescent next the  
head. Petioles slender, about  
half an inch long to the primary  
division, the divisions about twice  
three-parted, the <sup>ultimate segments</sup> ~~lobes~~ linear-sub-  
ulate, 2 to 4 lines long, scarcely  
half a line wide, <sup>very</sup> acute, rather  
rigid. Scales of the inner involu-  
cre 8, oblong, <sup>acutish</sup> thickish with thin  
and yellowish margins, glabrous,  
nearly half an inch long; those  
of the outer very much smaller and



shorter. The ligules have fallen  
from the solitary head; their  
achenia sterile. Palea of the  
receptacle petaloid-scarious,  
yellowish, striate, <sup>somewhat</sup> connate with  
the callus of the disk-achenia.  
The latter are 2 or 3 lines long,  
flat, perfectly smooth and gla-  
brous on the outer face, which  
is covered by the palea, but  
villous on the inner face,  
and very strongly villous on  
the margins; the truncate  
summit bearing a pair of  
erect, rather stout, persistent,  
upwardly villous awns, which  
are more than half the length  
of the disk-corrugas, but only  
one half or one third the length  
of the achenium.

This and ~~some~~ <sup>several</sup> related species  
of the Andes of South America,







\* \* Sandwicensis. (Campylotrochea, bass.)

Carex and Bidens are separated by a <sup>single</sup> ~~single~~ artificial, and not absolutely constant character. The Carex on which Nuttall proposed to found his genus Dio-  
dronta differ from the Platy-  
carpa section of Bidens, <sup>with</sup> which they accord in habit, only in their antrossely hispid or naked awns or teeth of the pappus; recently specimens of C. aristosa, Michx., if not of a hybrid between that species and some Bidens have presented themselves ~~to the~~ with retrossely hispid awns. The Sandwich Islands present us with a series of species which equally connect the Psilo-  
carpa section of Bidens with Carex. Some of them, having their achenia curved or twisted at maturity, <sup>were</sup> ~~have been~~ naturally



enough distinguished as <sup>a</sup> separate genus, Campylotheca; but its adoption, as may be seen from in the characters of the following species and of Bidens Sandwicensis, would merely give us three limitless genera in the place two artificially separated ones.

The first of the subjoined species is in all respects a good Coresp=sis. The second differs merely in its elongated achium slightly disposed to curve or twist. The others are Campylotheca, with more or less curved or spirally twisted achenia, either narrowly wing-margined or wingless, but manifestly inseparable congeneric with the preceding species. Their union with Coresp=sis is suggested both by their wanting the technical character of Bidens, and by the fact that the former contains

Species with winged and with  
curved achenia. On the other  
side we can draw only an ar-  
bitrary line of generic distinction  
between Bidens Sandwicensis,  
of Lessing, and Campylotricha  
micrantha; for which yet when  
the latter (always straight) achenia  
of the former bears awns these  
are retrose hispid, although  
sparingly so.

3. Coreopsis Mauiensis, Sp. nov.

C. fruticosa, diffusa, parce  
bistella, more glabrata; foliis  
trisectis, segmentis oblongis  
vel subcuneatis inciso-dentatis  
nunc 3-5-partitis seu termi-

naali pinnatifidato; pedun-  
culis elongatis moncephalis;  
involucri exterioris phyllis  
linearibus interiores aequan-  
tibus; acheniis <sup>glabris</sup> anguste  
oblongis modice alatis  
haud contortis apice bidenta-  
tis.

Hab. Maui, Sandwich Isl-  
ands, on sandy or dry hills  
near the coast. Also collected  
by Kemy, the form with more  
dissected leaves.

A shrubby, diffusely branched  
plant, apparently only a  
foot or two in height; the  
younger stems, petioles, &c.  
minutely and sparsely hairy,  
at length glabrate or glabrous.  
~~Petioles 6~~ Leaves all opposite.  
Petioles 6 to 10 lines long, Lowest



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leaves occasionally undivided and oblong or obovate; but nearly all the rest trisected; the leaflets oblong or somewhat cuneiform, obtuse or acute, thickish, coarsely toothed or incised, the lateral pair <sup>about half an inch long;</sup> sessile, the terminal one petiolulate and usually an inch long, sometimes all of them tripid, or the terminal one more dissected into oblong-linear lobes. Peduncles solitary and terminal, slender, 3 to 6 inches long, bearing single heads. Involucre 2 or 3 lines long; the exterior of ~~about~~ 6 to 8 linear and obtuse foliaceous scales, some <sup>their tips sometimes glandular;</sup> those of the <sup>inner</sup> ~~outer~~ <sup>lanceolate</sup> what spreading, ~~the~~ <sup>the</sup> oblong, striate and somewhat colored. ~~disk flowers yellow.~~ Rays 7 or 8, neutral; the ligules oblong, many-striate, obscurely toothed at the apex, about 5 lines in length. <sup>disk-corymb yellow.</sup> Branches of the style tipped with an acute cone.

Achenia all alike except that  
the outer are rather shorter and  
broader than the innermost,  
flat, narrowly or rather broadly  
oblong, striate on both faces,  
surrounded by a thin and rather  
broad wing, which is extended  
at the summit on each side  
into a triangular or subulate  
flat tooth, <sup>with</sup> the inner edge of which,  
in some instances, a very small  
smooth areol appears to be con-  
fluent.

Plate

carpa, Sp. Nov. (Tab.  
4. Careopsis (Campylo<sup>theca</sup>spora) macro =

C. herbacea? glabra; foliis pinn-  
atis 5-sectis, segmentis ova-  
tis cuspidato-acuminatis  
argutissime et creberrime ser-  
ulatis; pedunculis oligoceph-  
alis folia subsuperantibus;  
achenis pro capitulo magnis  
(subpollicaribus) linearibus  
striatis alatis vix tortis sub  
apice bivistulatis sen bi-  
corniculatis

Tab. Oahu, Sandwich  
Islands; on the mountains  
behind Honolulu.

Base of the stem not seen;  
the single specimen is a branch,  
a foot long, rather rigid, smooth. Pe-  
tioles an inch or more in length, slender,



Leaflets uniformly 5, ovate or oblong-ovate, sharply pointed, very sharply serrate with fine subulate teeth, ~~an inch~~ of a rather firm texture, veiny, an inch or a little more in length; the lateral ones nearly sessile, the three upper sometimes confluent. Peduncles axillary and terminal, erect. Heads in flower 3 or 4 lines long, ~~not~~ not including the rays. Exterior involucre of 5 or 8 loose and foliaceous oblong-linear scales, equalling the linear-lanceolate and somewhat colored inner ones. Ray-flowers sterile but with an abortive 2-cleft style and often with rudimentary filaments: ligule oblong, 2-toothed at the apex, yellow, 4 or 5 lines long. Anthers and style partly exserted. Ovaries <sup>flat</sup> obovate-cuneiform, one-ribbed on each face, some wing.

marginated, the margin sparingly ciliate, and extended on each side at or slightly below the broad and more or less emarginate summit into a <sup>somewhat</sup> ~~stout~~ divergent stout and short awn or horn. This is either naked or obscurely ciliate upwards ~~with~~ with a few small ~~bristly~~ bristly hairs, like those of the margin, ~~of the achenium~~. Achenia all alike (except the abortive ones of the ray), when full grown 9 or 10 lines long, and a line and a half wide, including the very distinct and rather thin straw-colored wing minutely and sparingly ciliate under a lens; the two erect or spreading awns about half a line long, either apical or often fully half a line below the narrowed apex, sometimes obsolete

or deciduous. The achenia, al-  
though <sup>fully grown</sup> ~~well formed~~, show only  
a slight disposition to curve or  
twist, while in the next species  
even immature ones are much  
curved.

Male

Achenia

St. fl. 10-12



5. Coreopsis (Campylotheca) Macraei.

C. herbacea, puberula - hirtella;  
ramis elongatis patentibus;  
foliis ternatis sectis, segmen-  
tis lanceolatis acuminatis cre-  
berrime serratis; capitulis laxo  
paniculatis hand magnis;  
acheniis linearibus glaberrimis  
calloso-marginatis cal-  
vis "aut junioribus vix biseto-  
sis" spiraliter tortis.

Campylotheca grandiflora, DC. Prodr. 5: p. 593.

Hab. Hawaii, Sandwich Isl-  
and, Macrae, Kery.

No specimen of this occurs  
in our collection. The above char-  
acter (with the bundles in view) is  
drawn up from a specimen of  
no. 287 of Kery's collection in  
the Sandwich Islands, communicated  
from the Paris Museum. The

Species does not merit the  
name of grandiflora (preoccupied  
in ~~tridens~~<sup>brassica</sup>) although they are  
nearly twice as large the size  
of those of the allied ~~A. micrantha~~<sup>A. micrantha</sup>.  
Involucre nearly as in most of  
the following. Rays perfectly  
sterile, 3 to 5 lines long. Style  
with only the thickened branches  
projecting beyond the exerted  
anthers. Ovaries perfectly gla-  
brous, oblong, compressed, desti-  
tute of pappus or crown, or  
some of the exterior with a  
minute point <sup>each side of</sup> at the summit.  
Immature achenia 4 or 5 lines  
long, a line wide, curved and  
twisted, with a thick and callous  
margin of the same consistence  
~~as the~~ and brown color as the  
body of the acheneum.

b. Coneopsis (Campylotheca) cosmoides, Sp. nov.

B. herbacea, fere glabra; foliis can-  
 tinis pinnatim 5-sectis summis  
 ve trisectis, ramealibus saepe  
 indivisis segmentisque ovato-  
 oblongis acuminatis argute  
 serratis membranaceis; peduncu-  
 lis breviusculis monocephalis;  
 capitulo <sup>magno</sup> ~~parvo~~ ~~involucro~~ ~~exteriori~~ ~~8-phyllo~~ ~~interius~~ ~~adequante~~ ~~phyllo~~ ~~oblongis~~ ~~seu~~ ~~oblongo-lanceola-~~  
 tis; ligulis apice inciso-lo-  
 batis; genitalibus praesertim  
 stylo longissimo valde exsertis;  
 acheniis immaturis linearibus  
 exalatis nunc flexuoso-curve-  
 tis margine <sup>hispidulis</sup> ~~at~~ apice setuloso-  
 coronulatis aristis 2 brevibus seu  
 brevissimis fere nudis subter-  
 minatis.



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Hab. Sandwich Islands; on  
the mountains of Karai. Also  
collected by Kerm.

The base of the stem<sup>is</sup> wan-  
ting in the specimens; but the  
plant appears to be wholly her-  
baceous. Leaves opposite, the  
somewhat dilated petioles an  
inch or two in length. Leaflets,  
or the similar leaves when undi-  
vided, from  $1\frac{1}{2}$  to 3 inches long,  
8 to 16 lines wide, acuminate, pin-  
nately veined, rather thin, sharply  
and somewhat coarsely serrate  
except at the base, which in  
the leaflets is commonly cuneate,  
the lateral ones serrate, the three  
uppermost often slightly confluent.  
Peduncles solitary and  
simple, terminal, an inch or  
two in length. Head hemis-  
pherical, an inch in length,

do. sp. n.  
1. Baideno (Camphylthea) commis  
halacaa, glabra, artic 3-5-fitola  
tin

Involute in the specimen  
from Kuny's collection remark-  
ably foliaceous, ~~the~~ in the  
single specimen of our collec-  
tion less so, equalling the  
disk-corollas in length. Ligules  
yellow, an inch or less in length,  
incisely 2-3-cleft at the <sup>neutral</sup> sum-  
mit, ~~the~~ corollas of the disk yellow.  
Anthers brown, wholly exserted,  
nearly 3 lines long. Styles  
filiform, projecting to the  
length of 3 or 4 lines beyond  
the anthers, their short branches  
~~with~~ thickened and beset with  
yellow hairs at the summit and  
tipped with a very conspicuous  
slender subulate appendage.  
Mature achenia not seen.  
The oldest examined are 3 lines long,  
half a line wide, compressed,  
marginless <sup>and beakless</sup>, already beginning  
to curve, glabrous or very sparsely



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hispid on the faces, but the  
margins ciliate with <sup>very</sup> stout and  
ascending hispid bristles; and a  
closer circle of <sup>similar short</sup> bristles at the  
apex imitating <sup>or represents</sup> a setulose-crown-  
form pappus: the margins of the  
acheneum <sup>each</sup> bear ~~at or usually~~  
a little below the actual summit,  
at least outside the setulose crown,  
an erect awn or rigid seta, - either  
scarcely longer than the neighboring  
bristles or of twice that length, often  
as long as the breadth of the achen-  
ium, - which is probably per-  
sistent, and is either naked or  
beset with two or three erect  
setulae. - This is evidently  
a Campylotheca, and the  
largest-flowered species known.

Plate

Head of part of plant

from very short

or 2. 8. 9.

Stem flower

with stamens &

style manifest

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Sp. Nov. (Tab. )

7. Coccippsis (Campsylothea) Menziesii, A

C. suffruticosa, <sup>fere</sup> ~~plerumque~~ gla-  
berrima, corymboso-ramosa,  
foliis bipinnatis - (vel sub-  
ternatis) sectis, summis  
3-5-partitis, segmentis  
longe anguste linearibus  
integerrimis; capitulis &  
parvis plurimis ~~corym-~~  
in corymbum digestis  
breviter pedunculatis; involu-  
cro exteriori breviori;  
achenis angustissime line-  
aribus elongatis glaberrimis  
apice calvis ~~vel~~ rarius ab-  
solute <sup>1-2-</sup> ~~in~~ setulosis, exterior-  
ibus saepe tenuiter suba-  
latis, in maturis leviter  
flexuosis vel tortis. - Variat,  
in floriscentia, foliisque  
superioribus (segmentis nunc  
laciniatis) pl. m. pubescentibus.

*Campylomeca australis*, pro parte? Less.  
in *Linnaea*, 6. P. ~~244~~ 509.

Stat. Mountains of the western part of Maui, Sandwich Islands: and a depauperate, somewhat pubescent variety with shorter leaves in the District of Mairua, Hawaii. Also collected on Hawaii by Menries and by Kemy.

Stem evidently woody at the base; the branches herbaceous. Leaves all opposite (as in the other species), <sup>entire</sup> in slender petioles; their divisions in the luxuriant specimen from Maui from 2 to 5 inches long, and not exceeding two lines in width, in Kemy's and other specimens not above an inch and a half in length, and less than a line wide. Common peduncles one or two inches long, bearing numerous corymbose heads. The latter (exclusive of the 4 or 5 rays)



are only about 2 lines long,  
narrow, and rather few-flowered.  
Ligules yellow, neutral, 3 lines  
in length, oblong, obscurely toothed  
at the apex. Disk-flowers 7 to 10.  
Appendages of the style tipped  
with a subulate point. Ovaries  
oblong, <sup>obcompressed,</sup> very glabrous, the exterior  
and sometimes the inner ones also  
narrowly wing-margined, desti-  
tute of pappus and even of  
setulae at the summit, ~~or~~  
except occasionally a solitary  
one or a pair of minute ones  
which <sup>appear</sup> represent the ~~anthers~~ van-  
ishing anthers; sometimes these  
are on the wing below the sum-  
mit. Hull-grown achenia  
very slender, <sup>(almost filiform)</sup> and 6 to 8 lines long,  
or the exterior ones shorter and  
broader, 4 or 5 lines long, and  
with a distinct but very narrow  
and thin winged margin, inclined

to curve or twist, but much  
less so than in the following  
species.

(Tab. )

8. Cercopssis (Campylothea) micrantha

C. <sup>basi</sup> suffruticosa, glabra, panic-  
ulato-ramosa; foliis pinna-  
tim 3-7. sectis partitisve, sum-  
mis nunc indivisis, segmentis  
lanceolatis seu oblongo-lan-  
ceolatis grosse argute serr-  
atis nunc incisís nunc 3-  
5-fidis venosis; Capitulis par-  
vis plurimis corymbosis; invo-  
lucris subaequilongis; acheniis

elongatis angustissime linearibus  
glabris exalatis apice nudo  
aut truncato aut saepius ~~mu-~~  
crones vel aristulas breves 1-2  
laeves gerentibus, maturis brun-  
neis arcte spiraliter contortis.

*Bidens micrantha*, Gaudich.  
Bot. Voy. Freyc. p. 464,  
t. 85. ~~Ib. Prodr. 5. p. 573.~~

*Campylithea micrantha*, Bass.  
in Dict. Sci. Nat. 57, p. 475.

~~Ib. Prodr. 5. p. 464, excl. B.~~

*C. australis*, Less. in Linnaea,  
b. p. 509, pro parte, excl.  
syn. Forst. & Spreng.

Stat. Sandwich Islands;  
Kaala Mountains, ~~and~~ H. Oahu.  
Also collected Merries, Gaudi-  
chand, Chamisso, H.; and by  
Kenny upon Maui (no. 280).



10  
Stems lignescant at the base, apparently from one to three feet high, smooth. Leaves most commonly quinquefoliate, <sup>(occasionally 7-foliolate)</sup> with the upper leaflets somewhat confluent, ~~occasionally 7-foliolate~~ — rarely only trifoliolate or three-parted. Leaflets broadly lanceolate or somewhat oblong, acuminate, membranaceous,  $1\frac{1}{2}$  to 3 inches long, strongly serrate with sharp teeth, sometimes lacinate or pinnatifid-incised, sometimes inclined to a biternate division, the lower pair commonly petiolulate. Common peduncles one or two inches long, bearing numerous small heads in a loose corymb, on slender but rather short pedicels. Involucre narrow, 2 lines long. Figules 4 or 5, ventral, yellow,

oval, 3 lines long, entire or nearly so. Disk-flowers 7-10. Ovaries ~~curvate-oblong~~ glabrous, thickish, moderately compressed, somewhat costate at the margins but wingless, the truncate apex naked ~~and~~ smooth, sometimes destitute of pappus, but the edges are in most cases extended at the summit, ~~into~~ one or both of them, into a short tooth or arm, ~~which does not~~ longer than the breadth of the ovary. The teeth or short arms are either glabrous or ~~bear~~ they bear one or two small, upright bristly hairs. The achenia become long and narrow, as in the preceding species; commonly they are 4 to 6 lines long, almost filiform, not winged ~~and~~ but indistinctly margined, either

naked at the apex or minutely  
bististulate, when mature  
recurved and twisted into a  
spiral.

The specimens in the collect-  
ion belong to a variety with more  
dissected leaves than in Gaudichaud's  
figure; to which Kuny's  
no. 285 answers well, except  
that the leaves are more sharply,  
almost laciniately, serrate.  
Lessing must have had before  
him, in Chamisso's collection,  
specimens like ours with ~~divi~~  
lobed leaflets, and also some of  
C. Menziesii. Probably the  
fruit, said to be "anguste alatum"  
was of that species.

Chamisso

Dr. Menzies & Dr. Chamisso



Bidens, Tourne.

1. Bidens Sandwicensis, Less.

B. herbacea, glabra; foliis membranaceis plerisque trisectis, segmentis ovatis seu ovato-lanceolatis acuminatis argute serratis, lateralibus petiolulatis vel sessilibus; capitulis laxe corymboso-paniculatis parvis radiatis; involucri phyllis linearibus glabris <sup>apice nunc macula glandulifera instructis</sup> ciliatis, <sup>apice</sup> achenis anguste linearibus glabris vel marginibus parce hispidulis apice setulosis nunc exaristatis nunc aristulis 1-2 ~~subulatis~~ aut nudis aut <sup>parce</sup> retrorsum hispidulis superatis.

Bidens Sandwicensis, Less. in  
Linnaea, 6, p. 508.

B. micrantha, Hook. & Arn. Bot. Beech.  
Voy. p. 86, non Gandich.

B. peduncularis, DC. Prodr. 5, p.  
598, quoad pl. Sandwic. &  
Syn. Less., non Gandich.  
Bot. Voy. Freyc.

B. nutica & B. gracilis, Nutt. in  
Trans. Amer. Phil. Soc. n. ser.,  
p. 607.

7, p. 368  
Desolepis pilchella Less. in Linnaea, 6, p. 511; DC. Prodr. 5,  
Campylothea micrantha, Boiss.  
in Herb. Mus. Par. coll. Remy,  
no. 279.

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Var.  $\beta$ . heterophylla: caule basi  
suppinitoso? foliis longe  
petiolatis plerisque sim-  
plicibus oblongo-lanceo-  
latis acumine longo inte-  
gerrius caudatis basi  
attenuatis, paucis trise-  
tis segmentis lateralibus  
sublinearibus; acheniis  
plerumque biaristulatis.

Bidens luxurians, Hook.  
& Arn. Bot. Beech. Voy.  
p. 86.

Var.  $\gamma$ . ovatifolia: caule herbaceo;  
foliis simplicibus <sup>subcordatis</sup> ovatis  
longissime petiolatis; ovario  
coronula petularum superas-  
tis exaristatis.

Tab. Oahu, Sandwich Islands.  
Var.  $\gamma$ . on the mountains behind Honolulu.



lulu, Var. B. Hawaii, Kerm (no. 281), &c.,  
No specimens of the ordinary trifoliolate form  
~~occur~~ in the present collection; but it  
(apparently with pinnatifid leaves also),  
was gathered by Chamisso, Collie,  
Seemann, Nuttall, Kerm, and others. If  
Gaudichaud collected it, as is proba-  
ble, it was not in Freycinet's  
voyage; at least it is not the plant  
described by him, <sup>under the name of *B. pedunculata*,</sup> and said to come  
from the Molucca Islands. Les-  
sing characterizes ~~the species~~  
not badly, the ordinary form  
of the species when he <sup>(likens)</sup> compares  
it ~~with *B.*~~ to *B. leucantha* in  
general appearance but with  
much smaller heads, yellow  
rays, and short awns which  
are retrorsely barbed only towards  
the summit. These awns are pe-  
quently <sup>and naked,</sup> minute or obsolete, But  
whether <sup>aristulate</sup> ~~armed~~ or ~~awnless~~, the wa-  
ves and <sup>either sparsely hispid or smooth</sup> ~~achena~~ <sup>on the margin</sup> ~~which are not~~  
curved nor twisted), are setulose-  
hispid at the summit; which  
is not the case in *Campylothea*



microantha, for which it has more  
than once been mistaken. When  
the aures develop completely they  
are often half a line or more  
in length, and minutely hispid  
downwards, either for their whole  
length or only near their bases  
or summit. So that the  
plant is manifestly a Bi-  
dens.

Moreover, the awnless state is manifestly  
Lessing's adenolepis. The little thickening at the tip of  
the scales of the involucre, which was taken for a gland.

The var. B. is evident by  
Hooker and Arnott's B. luxu-  
rians, but not at all B. ar-  
guta, H.B.K. I have it only  
from Kemy's collection, in  
which the leaves (or terminal  
leaflets) are serrate in the mid-  
dle only, attenuate below into a  
very slender petiole, and above  
into a conspicuous tail-like  
acumination.

The var. V. has similar petioles, about two inches in length, the lower ones almost as long as the simple, ovate or oblong-ovate, moderately acuminate blade. The achenia are unknown: but the ovaries are like those of the muticous forms of states of *B. Sandwicensis*, to which <sup>species</sup> it doubtless belongs.

*B. paniculata*, Hook. & Arn. <sup>from Tahiti</sup> take to be another simple-leaved variety of *B. Sandwicensis*, with the achenia rather more developed ~~than~~ is usual, and more barbed than is usual.

*B. angustifolia*, Nutt. l.c. is probably another form with dissected and narrower leaves. From the character it cannot be *Gnaphalium Menziesii*.

2. Bidens <sup>Hawaiensis,</sup> ~~insularum~~, Sp. Nov.

B. Herbacea, glaberrima; caule  
elato ~~superne~~ paniculato  
ramoso polycephalo; capitulis  
conymbozo - paniculatis; foliis  
omnibus simplicibus longe  
petiolatis oblongis vel ovatis  
acutis vel acuminatis, <sup>crebre</sup> ~~asym-~~  
serratis crassiusculis; involu-  
cri glaberrimi, phyllis lineari-  
bis obtusis, <sup>eciliatis</sup>; ligulis 7-8 elan-  
gatis; achenis anguste line-  
aribus glabris apice nudo  
breviter bicarinatis, aristis  
erectis retrosum barbatis.

Hab. Hawaii, Sandwich  
Islands, in the District of Waimea  
and elsewhere, at the base of Mon-  
na Loa, and near the crater  
Lua Pile.



A perfectly glabrous herb,  
with a considerably branched stem,  
three feet high or more; the  
branchlets bearing rather numer-  
ous heads in a loose corymb  
or panicle. Leaves of a firm  
texture, <sup>somewhat cuneate or roundish at the base</sup> very smooth, and the up-  
per surface often shining, 1 1/2  
to 3 1/2 inches long, ovate-oblong  
varying to lanceolate-oblong or  
to ovate; the primary veins numer-  
ous, rather straight and conspicuous  
on the lower surface; the petioles  
of the larger leaves ~~are~~ fully an  
inch long. Heads twice or thrice  
the size of those of any form  
of the preceding species; but the  
involucre very similar; the disk  
in flower 3 or 4 lines in length,  
and when the fruit is well devel-  
oped ~~about~~ fully half an inch  
long, many-flowered. Ligules  
oblong, bright yellow, 5 to 9 lines

in length. Achenia 5 or 6 lines long, half a line wide, flat, glabrous, or rarely with a few ciliate <sup>bristles</sup> on the margins, smooth and not at all setulose at the apex; the <sup>two</sup> slender erect achenes at most a line and a half in length, barbed with ~~rigid~~ and very strongly reflexed bristles or barbs, which are stout and rigid for the size of the achenes.

Specimens wholly destitute of flowers, ticketed as from the Feejee Islands, may belong to this species.\*

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\* On Hawaii Kery collected what appears to be a new *Bidenas* (no. 287), with 3-5-parted leaves, of which my materials are imperfect. Also, upon Kauai or Niihau (no. 258 bis), *B. chrysanthemoides*, a form with the involucral leaves not ciliate, not uncommon in the United States, and the same as *B. helianthoides*, H.B.K. of Mexico and of Chili.

Statis retrorsum aculeolatis.

Var. a. Taitensis: capitulis parvis  
(fructiferis tantum 3 lin. longis)  
; acheniis parce hispidulo-cili-  
atis, aristis ~~brevibus~~ ~~pe-~~  
~~brevibus subpatentibus.~~  
~~B. paniculata, Hoffm. & Schum.~~  
~~Bot. Beech. Voy. p. 56.~~



3. Bidens Lantanoides, Sp. Nov.

B. fruticosa, ramosa, Minutulo-  
pubescens; foliis omnibus sim-  
plicibus ovalibus oblongisve  
creberrime serratis petiolatis;  
pedunculis solitariis monoceph-  
alis folia subaequantibus; in-  
volucri exterioris phyllis line-  
ari-oblongis discum aequan-  
tibus; ligulis brevibus; acheni-  
is linearibus subtetragonis margini-  
bis apiceque hispidulis breviter  
vel brevissime biaristatis.

Var.  $\beta$ . glabrata; magis herbacea;  
foliis utrinque attenuatis;  
capitulis subpaniculatis.

Stat. Eimeo, Society Islands;  
the very imperfect specimen of the  
doubtful variety from Tahiti.

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The above character is drawn up from insufficient specimens of a shrubby species, apparently well-marked, having a general resemblance to a Lantana in foliage and habit. All the young parts are hirsute with a fine, rusty pubescence, the older leaves, &c., are glabrate. Leaves crowded on the flowering <sup>if a firm texture,</sup> shoots,  $\frac{1}{2}$  an inch and a half in length, less than an inch broad, slightly or abruptly pointed, densely and somewhat crenately serrate, rather cuneate at the base or abruptly contracted into a petiole of 3 or 4 lines in length. Peduncles solitary and terminal about an inch long. Head hemispherical, about 4 lines in diameter. Scales of the outer involucre thick, linear-oblong, hirsute-pubescent, 8 or 9 in number. Ligules 5 or 6,

oblong, little exceeding the disk,  
Achenia 3 lines long, narrower,  
hispid along the margins and at  
the summit with rather sparse  
and rigid short bristles; the  
awns barely half a line in  
length, often shorter, and some-  
times one or both obsolete or  
evanescent, when present al-  
ways retrorsely barbed.

The specimen of the doubt-  
ful variety is glabrate, and  
with leaves approaching those  
of the preceding species; the  
awns of the achenia are some-  
times elongated and recurved at  
maturity. The specimens are  
too imperfect for proper deter-  
mination.



4. Bidens pilosa, Linn.

Stat. Madeira, Cape Verde  
Islands, New Zealand, Tahiti,  
Fiji Islands.

5. Bidens subalternans, DC.

Stat. Brazil, in the vicinity of  
Rio Janeiro.

6. Bidens californica, DC.

Stat. Peru, at Lima and Callao.

More hairy than Douglas's  
Californian specimens; but otherwise  
similar. The was probably trans-  
ported to the coast of California.

7. Bidens leucantha, Willd.

Stat. Madeira, Rio Janeiro.  
Peru, between Lima and Obrajillo.

8. Bidens bipinnata, Linn.

Stat. Peru, near Obrajillo.  
A very imperfect specimen: apparently  
not B. chilensis, DC.

9. Bidens Andicola, H.B.K.

Stat. Baños, Andes of Peru. A hairy  
form of the species, nearly agreeing  
with B. hispida, H.B.K., which  
Noddell reduces to a mere variety  
of B. Andicola, except that the  
head is radiate.

10. Bidens scandiema, H.B.K.

Stat. Baños, Andes of Peru. Ap =

parently the same as the Quin-  
tensian species, but ~~more~~ hairy.

11. Bidenis humilis, HBK.

Stat. Casa Cancha, in the  
high Andes of Peru, above Ota-  
jillo. A condensed and dwarfed  
form of the species.

Thelesperma, Less.

Thelesperma, Less. in Linnaea, b. p.  
511, & Syn. p. 234; DC. Prodr. 5. p.  
633; Gray in Kew Jour. Bot. 1.  
p. 252, & in Pl. Wright. 1. p. 109,  
2. p. 90, & in Mex. Bound. Surv.  
2. p. 90.

Cosmidium, Torr. & Gray, <sup>(St. Amer.)</sup> Fl. 2. p. 350;  
Gray, Pl. Fendl. p. 86.



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(Tab. )

1. Thelesperma scabiosoides, Less.

T. radice perenni; foliis ~~et~~ segmen-  
tisque filiformibus; capitulis  
eradiatis; involucri interno usque  
ad medium octofido, exterius bis  
terve superante.

Bidens Megapotaica, Spreng.  
Syst. 3. p. 454.

Thelesperma scabiosoides, Less.  
l.c.; DC. l.c.; Hook. & Arn. in  
Journ. Bot. 3. p. 319; Gray, l.c.

Hab. Plains of the Rio Negro,  
North Patagonia.

Good flowering specimens were  
collected but no mature fruit. The  
Thelesperma gracile, of the Plains of  
Texas, Kansas, &c., so closely resem-  
bles the species of the ~~same~~ counter-  
part region of the Southern Hemisphere

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That, if they grew side by side, it is ~~not~~ unlikely they would have been specifically distinguished. The leaves are somewhat more slender in the Patagonian species; the ~~the~~ principal involucre cleft quite to the middle of the edges of the lobes narrowly scarious in both), and the segments <sup>or bracts</sup> of the outer involucre reach nearly to the sinuses of the inner. That the mature achenia are vermose or tuberculate-roughened on the back, as in the other species, ~~appears~~ (although the character is omitted by DeCandolle) appears from the detailed description in the Linnaea, as well as from the generic name. The leaves are for the most part three-parted or

Plate Thalesperis a scab-  
osoides.

pinnately five-parted; but the uppermost are often simple, and or some of the lower ones sparingly bipinnately or biternately divided.

Plate. Thelasperrma scab-  
osoides: Plant of the natural size,  
Fig. 1. A chaff of the receptacle,  
2. A flower. 3. A stamen. 4. Style  
and stigmas. The analyses vario-  
usly magnified.

Glossogyne, Cass.

1. Glossogyne tenuifolia, Cass.

Glossogyne tenuifolia, Cass. in  
Dict. Sci. Nat. 51, p. 475; Ob. Prodr.  
5, p. 472

G. pedunculosa, Ob. l. c. var.  
pedunculis simplicibus monoceph-  
alis.



*Bidens tenuifolia*, Labil. Sert. Austr.

Cal. p. 44, t. 45.  
*B. pinnatifida*, Forst. in Herb. Mus. Par.?  
*Coccyssis e. Tanna*, Forst. Prodr.

p. 81.

*C. Tannensis*, Spreng. Syst. 3. p.

514.

Stat. Feejee Islands; a state  
with numerous and fascicled heads,  
the fruit more or less abortive.  
Hunter's River, <sup>New South Wales</sup> Australia; the  
normal form: also Woolongong;  
a form with mostly scapiform  
and simple peduncles, apparently  
*C. pedunculosa* of DeCandolle.

Himenesia, Bar.

1. Himenesia encelioides, Bar.

Stat. Rio Janeiro, Brazil. (Probably of Mexican origin, now widely scattered. The other remaining species, H. microstera, apparently is not distinct.)

Verbesina, Linu.

1. Verbesina helianthoides St. B. K.?

Stat. Peru, near Obrajillo.

This I suspect to be Verbesina helianthoides, <sup>of Humboldt's collection,</sup> the habitat of which is not recorded. The stem, however, is winged below by the decurrent bases of the leaves, and the well-formed achenia are generally rather broadly winged on one side only. The wings both of the stem and of the fruit are inconstant in this genus.

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Spilanthes, Jacq.

1. Spilanthes (Arnella) Lundii, DC.

Spilanthes Lundii, DC. Prodr. 5. p. 622

Hab. Brazil; base of the Organ Mountains near Rio Janeiro, in marshes.

In the present, as also in <sup>(an)</sup> original specimen of this species, the scales of the involucre are somewhat ciliate. The slender awns of the pappus are fully half the length of the acheneum, and longer than the copious hairs which fringe it.

2. Spilanthes bleph



2. Spilanthes (Acmella) blepharicaarpaSpilanthes blepharicaarpa, DC. Prodr.  
5, p. 620.S. melanoides, Hook. & Arn. in  
Jour. Bot., 3, p. 317.Hab. Rio Negro, North Patagonia.

A well-marked species, having the aspect of an Acmella; Hooker and Arnott do not describe the achenia. To be bound He's character I may add that the large-fringed achenia are rather deeply notched at the summit, owing to the projection of a strong and usually blunt tooth from each margin (the ray-achenia strongly trigonous); of a strong and usually blunt tooth which bears a slender, pilose, and somewhat deciduous awn. Ligules about 5 lines long, bright yellow. Receptacle

acutely coriaceous, at length 4 or 5  
lines long. Some of the larger leaves  
are sparingly angulate-toothed.

3. Spilanthes (Aemella) Poeppigii, <sup>L.C.</sup> DC.

Hab. Peru, at Lima and Obra-  
jillo. Forms with the peduncles  
elongated; probably not different from  
S. Mutisii.

4. Spilanthes Pseudo-Aemella, Lin.

Hab. Manila, Luzon.

The marginal achenia are trique-  
trous and more or less triaristate; but  
their corolla is tubular, not ligulate;  
so this is one of the forms which con-  
nect S. Aemella with S. Pseudo-Ae-  
mella, and confirms the union which  
Linnaeus anticipated.

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5. Spilanthes (Salivaria) alba, Willd.

Hab. Peru, between Lima and Obrajillo: A common Peruvian species.

hispidula, B. & C.  
5. Spilanthes (Salivaria) urens, Jacq. var.

Hab. Peru, in the vicinity of Callao.



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Wollastonia, Db.

1. Wollastonia biflora, Db.

Nerpesina biflora, Linnae. Spec. ed. 2.  
p. 1272. (Rhede Hort. Malab. 10.  
t. 40.)

Wollastonia biflora, scabruscula, (glabrata, canescens,  
stri-  
gulosa (pro parte), Db. Prodr. 5. p. 547.

Hab. Mangri Islands, and in the  
vicinity of Manilla, Luzon. Also  
Tahiti, Society Islands; a form with the  
large leaves rather softly canescent-  
pubescent underneath.

The five species of De. Benth. cited  
above may be rather confidently  
reduced to one, which may be dis-  
tinguished from the following by ~~the~~  
looser and narrower, lanceolate or oblong-  
lanceolate and more or less acuminate  
scales of the involucre, and perhaps more

incrassated achenia. It apparently includes Gandichan's Nubosina strigulosa<sup>and</sup> Lessing's Nedelia aristata. In which species Forster's Burphthalum <sup>(Springer's B. australe)</sup> helianthoides belongs is uncertain.

## 2. Wollastonia Forsteriana, Db.

Burphthalamum uniflorum, Forst. Prodr. p. 91 (abs. char.); Sprang. l. c.

Nedelia Forsteriana, Endl. Prodr. Fl. Novf. p. 5.

Wollastonia Forsteriana, Db. Prodr. 5, p. 548; Endl. Iconogr. t. 88; forma ~~pauciflora~~ oligocephala.

W. insularis, Db. Prodr. l. c.

W. strigulosa, Sum. in Burph. 1861, p. 207.

Stat. Samoa, Tonga, and Feejee Islands. Also on a small island in the Soloo Sea.

Nearly all the specimens are polycephalous and with awnless achenia, the foliage of some of them glabrate but mostly canescent beneath. The shorter ~~involucres~~ <sup>and none</sup> ~~more numerous, appressed~~ and imbricated involucre, of ovate or oblong and obtuse scales, and the less thickened achenia, distinguish this from the preceding species. The heads are usually smaller.



Lipochata, DC. (excl. Spec. Amer.)

Lipotriche, pr. parte, Less. in Linnaea, b. p. 510, & Syn. p. 231, non R. Br.

Verbesina Spec. Gaudich. & Hook. & Arn.

Lipochata, DC. Prodr. 5, p. 610, excl. Spec. Amer. (i.e. Rexmeria spec.)

Microchata, Nutt. in Trans. Amer. Phil. Soc. (n. ser.) 7, p. 450, excl. spec. Mollastonia.

Schizophyllum, Nutt. l. c. p. 452, (non Fries.)

Aphianopappus, Endl. Gen. suppl. 2, p. 43.

Macraea, Hook. f. in Pinced. Linn. Soc. n. 28, p. 278, & Linn. Trans. ... (Fl. Galap.) p. ...

Trigonopterum, Anders. Veg. Galap. in Voy. Eigen. Bot. t. 6, f. 1.

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That all the following *Sandwichian* species are congeneric, notwithstanding their diversified habit, and the complete abortion of the short awns or chaffy scales of the pappus of the latest-enumerated one, I have no doubt: also that Dr. Stokes's *Macraea* (Andersson's *Trigonosternum*) of the Galapagos is another species, in which the coronula of the pappus is generally a little trifle more developed, and the awns obsolete, but not always entirely wanting. To merge all these plants in *Nothastonia* (which shows no tendency to winged achenia) would hardly be permitted, although the earlier species would not appear widely out of place there. On the whole it will be more difficult clearly to ~~distinguish~~ separate ~~this~~ them ~~group~~ from *Wedelia* on the one hand and from *Texmeria* on the other. Since the last-named genus takes in all the American species of

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DeBardoll's genus Lipochata, and since the latter was essentially founded upon Lissing's Lipotriche, and this mainly upon the leading Sandwichian species, it is evident that (as I have formerly stated) the ~~same~~ present group, if maintained, should in strictness retain the name of Lipochata. If the rule of priority be waived on account of the inappropriateness of that name to one or two of the species, the succession would most appropriately fall upon Macraea. But convenience <sup>in this case</sup> ~~here~~ coincides with precedence in maintaining the ~~rule~~ strict rule. L. laricifolia (Macraea laricifolia Hook. f.) and L. micrantha, though not very ~~congen~~ congruous in habit, may be conveniently associated under the sectional name of Aphanosapphis.



1. Lipochata australis.

L. suffruticosa, hirtello-scabra vel  
hispidula; foliis ovatis ovato-lan-  
ceolatisve 3-5-plinerviis acuminatis  
argute serratis nunc incis<sup>is</sup> ~~nunc~~  
aut sessilibus aut in petiolum  
brevem marginatum decurrentibus;  
involueri squamis ovato-lanceola-  
tis subacuminatis.

Liptriche australis, Less. in Linnaea,  
6, p. 560.

Var. a. comata: foliis sessilibus basi  
nunc angustata comatis nunc  
late comato-perfoliatis amplexi-  
caulibus.

Verbesina comata, Gandich. Bot.  
Freyc. Voy. p. 464.

Lipochata comata, St. Prodr. 5, p. 611.  
Microchata comata, Nutt. in Trans. Amer. Phil. Soc. (n. ser.) 7, p. 452.

Var.  $\beta$ . decurrens: foliis basi in pe-  
 tiolum plerumque alaturis con-  
 tractis, lamina nunc ovata  
 seu rhombea nunc oblongo-  
 lanceolata, in latifoliis saepius  
<sup>argute</sup> duplicato- vel laciniato- serrata.

Microcheta lanceolata, Nutt. l.c.,  
 est forma angustifolia!

Var.  $\gamma$ . lobata: foliis subsemilibus  
 vel breviter petiolatis basin versus  
 utrinque lobatis seu laciniato-  
dentatis.

Nubesima lobata, Gaudich. l.c.;  
 Hook. & Arn. Bot. Beech. p. 87.  
N. hastulata, Hook. & Arn. Bot.  
 Beech. l.c.

Lipocheta lobata & hastulata,  
 DC. Prodr. 5. p. 611.

Microcheta lobata & var. hastu-  
lata, Nutt. l.c.

Stat. Sandwich Islands, gathered by most collectors. var. a. in the present collection only from the western part of Maui; and from Kauai. <sup>in various</sup>  $\beta$ . With the preceding forms; also Hawaii near Hilo. V. Kaala Mountains, Oahu.

The above are manifestly all forms of one polymorphous species, for which, as a whole, neither lobata nor comata is an appropriate name. I therefore adopt the nearly as old specific name of Lessing, who described forms with mostly undivided leaves. Pappus of 2 or 3 short chaffy awns or ~~see~~ narrow scales. An epigynous gland at the base of the style of the disk-flower fills the bottom of the tube of the corolla in all the species.



2. Lipprochata subcordata, Sp. Nov.

L. herbacea? erecta, cinereo-strigulosa; foliis detrideo-subcordatis acuminatis duplicato-serratis reticulatis longe petiolatis, petiolis gracilibus; involucri squamis ovato-oblongis obtusiusculis.

Stat. Hawaii, Sandwich Islands, on the sea-coast south east of the crater Lina Pele.

Only a single specimen was preserved, and it has not been met with in any other collection. Apparently it is sufficiently distinct from any form of the foregoing species; but its principal character is in the petioles. These are an inch long, slender, and marginless, almost half the length of the blade, which is ~~some-~~ somewhat cordate or truncate at the

base, with only a slight decurrent portion, not surpassing the depth of the sinus. The leaves, &c. are cinereous with a close and slightly scabrous strigulose pubescence; the veinlets conspicuously reticulated, the basal lateral ribs rising from just within the lamina. Peduncles slender, the middle one monocephalous, the lateral tricephalous. Heads resembling those of *L. australis*, rather small; the scales of the involucre blunter, about the length of the disk. Mature achenia not seen; those of the ray are evidently trigonous, smooth below, hispid at the summit, the angles above show the rudiments of a narrow and lacinated <sup>denticulate</sup> or ~~interrupted~~ wing, the summit crowned with a pappus of three or four short squamulate hairs and some minute intermediate <sup>setulose</sup> squamellae; those of the disk apparently infertile and compressed, mostly bicaristulate.

3. Lipochota calycosa, Sp. Nov.

L. fruticosa, hispidulo-scabrida; foliis lanceolatis oblongisve obtusis obsolete subserratis vix triplinerviis brevissime petiolatis; involucri squamis 5-8 ovalibus seu obovatis obtusissimis foliaceis discum subsuperantibus; paleis receptaculi convolutis truncatis.

Hab. Diamond Hill, Oahu, Sandwich Islands.

This truly distinct species occurs in no other collection. The stems appear to be more decidedly lignescent than in the other species. The leaves are green, moderately <sup>rather thin,</sup> scabrous, and varying from oblong or oblong-ovate to lanceolate,  $1\frac{1}{2}$  to 2 inches long <sup>and</sup> from half an inch to an inch in width, or those of



the branchlets less than inch long,  
 all obtuse, obscurely serrate or  
 almost entire, their veins inconspic-  
 uous; the petioles less than two lines  
 in length. Peduncles slender, 2 or 3  
 inches long, mostly naked and mo-  
 nocephalous. Heads rather larger  
 than in *L. australis*; the involucre  
 conspicuously different, consisting as it  
 does of from 5 to 8 laxer, more foli-  
 aceous, broadly oval or slightly ob-  
 ovate, very obtuse, equal scales,  
 which somewhat exceed the disk.  
 Rays about 12, oblong-linear, yellow.  
 Paleæ of the receptacle shorter than  
 the disk-flowers, as in the rest of the  
 genus, in this species remarkably  
 broad, abruptly truncate, and convolute  
 around the achenia. Achenia of  
 the disk apparently almost as fertile as  
 those of the ray, the outermost tri-  
 angular, the inner compressed, all  
 more or less pubescent at the top,  
 mostly wingless, the two or three ~~axes~~

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anous nearly equalling the slender  
tube of the corolla, rather stout  
and persistent, connected by a  
~~crown~~ of pretty conspicuous crown  
of conereted squamella.

4. Lipochata lavarum, <sup>DC.</sup> ~~Gaudich.~~

Verbesina lavarum, Gaudich, Bot.  
Freye. Voy. p. 464.

Lipochata lavarum, DC. Prodr.  
5. p. 611.

Stat. Hills and barren moun-  
tains near the coast of West Maui,  
Sandwich Islands. Collected by  
Gentry and recently by  
Kenny on Hawaii.

Well marked by its silvery-canes-  
cent (but scarcely strigose) leaves. These  
vary from narrowly to broadly lance-  
olate or oblong, from one to three inches

in length, the veins and triple ribs  
 conspicuous beneath. Scales of the  
 involucre oval or ovate-oblong,  
 obtuse, appressed, biserial, shorter  
 than the disk. Rays 8 to 10,  
 elongated, yellow. ~~Chaff~~ Pales  
 of the receptacle obtuse. Achenia  
 all fertile, short and thick, very  
 variable ~~as to the wings, &c. as is~~  
~~usual in~~ (in the manner of  
 Verbesinoid genera generally) as to  
 the wings, &c. The radial achenia  
 of the present collection are conspic-  
 uously three-winged, <sup>entire or laciniated,</sup> the wings <sup>erect</sup>  
 diverging upwards and extended into  
 a salient process as long as the  
 pappus, but entirely free from  
 the latter; the disk-achenia either  
 two-winged, or winged only from  
 the inner edge, often with ~~two~~  
 one or two small tooth-like pro-  
 cesses at the summit outside of  
 the pappus. The latter consists of  
 two or three stout, pubescent,



more or less clavate and blunt  
 aurs or ~~paleae~~, paleae, about  
 a third or a quarter the length of  
 the achenium, ~~with or without~~  
~~manifest intermediate~~  
~~small intermediate minute~~ squamule.  
 In Kemy's specimens from  
 Hawaii, the achenia are smaller  
 and wingless or nearly so, but the  
 border of their flat summit ~~bears~~  
 often bears ~~the~~ two or three tooth-like  
 processes; the aurs similar or smaller.

5. Lipochata integrifolia.

L. herbacea e radice lignescente,  
humifusa, ramosissima, minutim  
sericeo-canescens; foliis sub  
subcarnosis parvis spatulatis  
linearibusque integerrimis,  
venis hand perspicuis; pedunculis  
solitariis terminalibus; involucri  
squamis biseriatis ovatis vel

Staudis obtusissimis disco  
 brevioribus; paleis receptaculi  
 obtusissimis.

Microcheta integrifolia, Nutt. in  
 Trans. Amer. Phil. Soc. (~~ser. 2~~)  
 n. ser.) 7, p. 451.

Hub. Sandwich Island:  
 Diamond Hill, near Honolulu,  
 Oahu; and Sand Hills of Hawaii,  
 the coast of Maui. Collected like-  
 wise by Gandichand and Kemy  
 as well as by Nuttall.

A close congener of L. lavarum,  
 but procumbent, somewhat fleshy,  
 very leafy; the leaves less than  
 an inch long, varying from oblong-  
 spatulate to linear, very obtuse, cin-  
 reous or canescent, the veins hidden  
 or sometimes manifest underneath in  
 the dried state, the venation similar  
 to that of L. lavarum. Peduncles

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equalling or exceeding the leaves.  
Head small. Rays yellow, short,  
or sometimes rather long. Achenia  
nearly as in the preceding species,  
but generally less winged. The stam-  
ens or styles of the pappus sim-  
ilar.

Lipochata succulenta, DC. (Verbe-  
sina, Hook. & Arn.) ranges between  
L. integrifolia and L. australis: like  
the former it has the habit of Eclip-  
ta. The leaves are not absolutely  
glabrous, but under a lens show  
some sparse and minute strigose  
hairs. It does not occur in the  
present collection, but Kemy  
gathered it both upon Nihoa  
and Kauai.



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b. Lipocheta heterophylla, Sp. Nov.

L. suffruticosa, ramosissima, erecta,  
aspero-hispidula; foliis plerisque  
tripidis, segmentis oblongo-linearibus  
sen linearilanceolatis den-  
ticulatis nunc laciniatis vel inciso-  
pinnatifidis; involueri squamis  
late ovatis sapius acuminatis  
disco parum brevioribus; paleis  
receptaculi mucronatis. — Folia  
nunc petiolata petiolis margina-  
tis, nunc connato-amplexicaulis.

Stab. Mani, Sandwich Islands:  
the less-lobed form found on sand-  
hills in the western part of the island;  
those with dissected leaves on moun-  
tains in the eastern portion.

Apparently a low, erect, suffru-  
tose plant, rough with short hispid  
pubescence. Leaves from one to three  
inches in length, veiny, the lowest

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sometimes nearly entire; the ~~Athers~~ deeply three cleft toward the base; the divisions in the broader form 3 or 4 lines wide, obtuse, obscurely toothed, the middle one much longer, the lateral ones occasionally two-lobed; in the other forms the ~~Athers~~ divisions are narrower and acute, and either laciniately toothed or irregularly pinnatifid and incised. Peduncles slender, solitary or corymbose. Heads about the size of those of L. australis; the involucre of shorter and broader, and usually abruptly acuminate scales. Rays about 10, linear-oblong, bright yellow. Achenia pubescent at the top, wingless, or obscurely winged near the summit. Pappus of 2 or 3, very short and squamellate awns or paleae, which are somewhat coroniform. Concreted at their base. ~~The dissected~~

7. Lipochata tenuifolia, Sp. Nov.

L. Herbacea, erecta, gracilis, fere  
glabra; foliis pinnatifidis,  
segmentis rhachique angustissime  
linearibus seu filiformibus in-  
tegerrimis; involucri squamis  
lanceolatis discum adquan-  
tibus; paleis receptaculi acutatis.

Stat. Oahu, Sandwich Islands,  
 in the Kaala Mountains, near  
 Waianae. Also gathered on Oahu  
 by Kemy.

Except that L. heterophylla  
 exhibits some transition, this spe-  
 cies, with its finely dissected and  
 slender foliage would hardly be ~~there~~  
 taken for a congener of L. australis,  
 &c. But the floral structure, ~~the~~  
 achenia, and pappus are the same.  
 The weak and slender branching  
 stems are from one to three feet in



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height, smooth or nearly so; the branches very leafy. Leaves from one to three inches long; the slender rhachis bearing 8 or 10 pairs of narrowly linear or sometimes filiform leaflets or segments, of unequal length (the larger ones about half an inch long), and a somewhat prolonged terminal one scarcely broader than the rhachis. Peduncles terminating the branches,  $\frac{1}{2}$  to 2 inches long.

Heads rather smaller than those of L. australis. Scales of the involucre biserial, about the length of the disk, broadly lanceolate, acute or acutish. Rays 8 or 9, rather short, yellow. Pales of the receptacle abruptly ~~encompassed~~ pointed.

Achenia 2-4-angled, the angles or some of them sometimes ~~scarcely~~ slightly winged, or a little produced at the summit. Pappus of 2 to 4 short and ~~and thickish~~, somewhat deciduous awns.

8. Lipochia (Aphanopappus) micrantha,

L. herbacea, minutim strigulosa;  
caulibus gracillimis ramosissimis  
diffusis; foliis tenuibus bi-tripin-  
natipartitis, segmentis parvis sub-  
cuneatis saepe 2-3 lobatis bi-triloba-  
tis; capitulis parvis breviter pedun-  
culatis; involucri squamis exteri-  
oribus lineari-spathulatis laxis;  
interioribus oblongis; ligulis 2-3  
ovalibus; fl. disci 6-8; acheniis  
apteris, pappo obsolescente.

Schizophyllum micranthum,  
Nutt. in Trans. Amer. Phil. Soc.  
(n. ser.) 7, p. 452.

Aphanopappus (E. & L.) Nuttallii, Walp.  
Repert. 2, p. 620, & 6, p. 170.

Ital. In shady woods of the  
mountains of Kanai (<sup>Sandwich</sup> Atoki) near  
Kolua, where it was previously dis-  
covered by Nuttall. Kery has more  
recently collected it on the same island.

A slender, branching, leafy, diffuse herb, in habit resembling the ~~pre~~ foregoing species, but with smaller, fewer-flowered, and less pedunculate head (the narrow involucre scarcely above two lines in length), and 2-3-pinnately dissected leaves, the cuneate-oblong or obovate <sup>segments</sup> ~~lobes~~ of which are only a line or two in length. <sup>Palea of the receptacle oblong, acutish,</sup> Ligules 2 or 3, broadly oval, emarginate or bifid at the extremity. Corolla of the disk-flowers (as in most of the preceding species) with a campanulate or cup-shaped limb or throat raised on a narrow tube; the base of the latter filled by ~~the~~ <sup>a conspicuous</sup> epigynous gland or stylopodium. Ovaries pubescent at the summit, as in all the genus, the short hairs, or ~~some~~ a part of them, apparently forming a minute coriulate pappus, of which only vestiges ~~remain~~ remain upon the mature achenia. The <sup>exterior achenia, whether</sup> ~~achena~~ of the ray ~~are the most~~ or disk, are the most fertile and turgid, but the central ones are ~~not~~ by no means always.

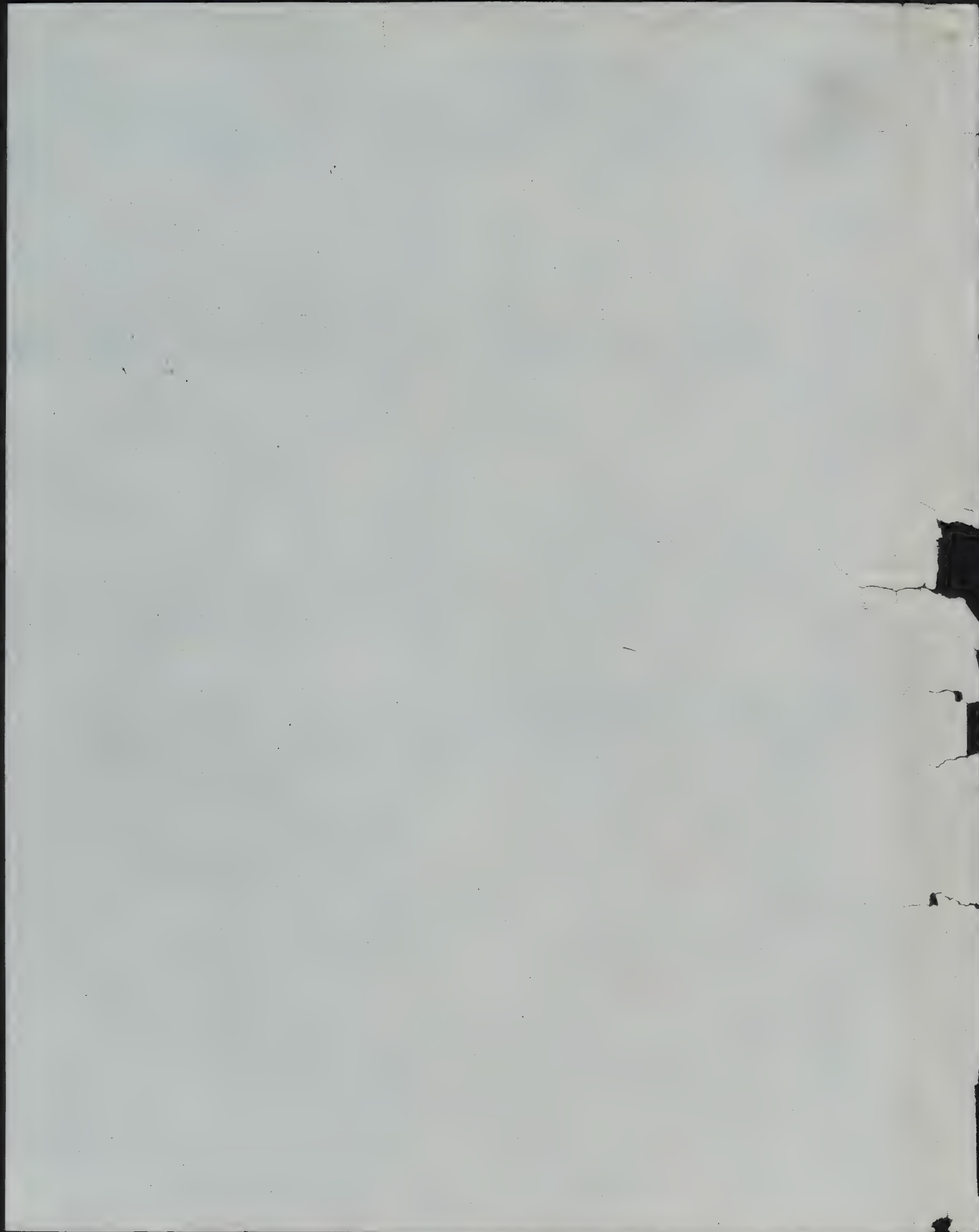


infertile. They are short-obovate, the outermost 3-4-angled but wingless, the inner more compressed or lenticular. \*

\* I have from Kemy's collection, supplied by the Paris Museum, a specimen of what appears to be still another species of this group, - one which helps somewhat to fill the interval between L. micrantha and L. laricifolia: -

Lipocheta (Aphanopappus) Kemyi, nov. spec.: herbacea, ramosissima, diffusa; cinereo-hirsuta; foliis oblongis petiolatis obtusis saepius parce dentatis vel sublobatis, superioribus alternis; capitulis parvis subpaniculatis breviter pedunculatis; involueri squamis oblongis obtusis; ligulis 5-7 obovatis brevibus; achenis radii praesentim ad angulos tuberculatis nunc interrupte subulatis, disci inanibus; pappo obsoleto. -

Oahu, Sandwich Islands, coll. Kemy, no. 260. - Stems 6-10 inches long. Leaves half an inch long. Heads 2-3 lines long. Disk-flowers perfect, but apparently infertile. Achenia all pubescent at the summit, those of the ray turgid.



# Flaveria, Juss.

## 1. Flaveria Contrayerba, Pers.

Hab. Vicinity of Lima and Callao, Peru. Par. [A species widely diffused over the warmer and drier parts of America, and becoming naturalized in other corresponding parts of the world.]

F. angustifolia, Pers. in some specimens appears sufficiently distinct, but others pass into F. Contrayerba.

F. Australica, Hook. is a ~~narrow~~ probably only a narrow-leaved form of the same species; but how and when <sup>did it</sup> find its way to Tropical Australia? Probably in ballast of Spanish vessels from ports of Western America to ~~Malacca~~ some Malaysian ports, where, however, it is hardly now met with.

As to the remaining species of the genus, F. longifolia, Gray, Pl. Fend., p. 88 (which is Gymnosperma? oppositifolium, Sw.) is shown by a good suite of specimens in Boerhaave's collection (no. 2263, 3173) to be no more than a variety of F. linearis, Lagasca, a native of Cuba, the Bahamas, and East



Florida. The leaves of specimens remote from the sea-coast are less fleshy, either entire or denticulate, in the largest forms elongated-lanceolate, tapering <sup>gradually</sup> from a base of 3 to 5 lines in width to an acute apex. F. chloro-  
repolia, Gray, from the same region, is a very distinct species of the same ~~group~~ corymbose inflorescence. I do not know F. Bonariensis.

Emmydra, Lour., Pl.

1. Emmydra maritima, Pl.

Hab. On the coast of Peru at Callao. (Abundant in fresh water; Heads sessile and pedunculate in the same specimens.)

Porophyllum, Vahl.

1. Porophyllum ellipticum, Cass.

Hab. Brazil, near Rio Janeiro. Nearly the var. intermedium Pl., and the species doubtless includes P. ruderale.

Tagetes, Journ.

1. Tagetes glandulifera, Schrank.

Hab. Brazil, near Rio Janeiro.  
Chile, <sup>at</sup> ~~near~~ Santiago: a common  
weed in South America.

2. Tagetes graveolens, L'Her.

Hab. Lima, Peru, among  
garden rubbish: a small-leaved  
form; otherwise <sup>similar to</sup> ~~same~~ as specimens  
collected by Pavon, and also by Donbey.

3. Tagetes gracilis, Db.

Tagetes gracilis, Db. Prodr. 5, p. 645  
Solenotheca tenella, Nutt. in Trans.  
Amer. Phil. Soc. (n. ser.) 7, p. 272.

Hab. Obrajillo, Peru.

Guntheria, Spreng.

Guntheria, Spreng. Syst. 3. p. 356 &  
449 (1826).

Polypsteris, Less in Linnaea, 6 (1831) p.  
518, non Nutt.

Cercostylis, Less. Syn. Compos. (1832),  
p. 239; Dc. Prodr. 5. p. 660.

(Tab. )

1. Guntheria Megapotaamica, Spreng.

Guntheria Megapotaamica, Spreng.

l.c.; Schlecht. in Linnaea, 11. p. 4.

Polypsteris Brasiliensis, Less. in Linnaea,  
6. p. 518

Cercostylis Brasiliensis, Less. Syn.  
Compos. l.c.; Dc. l.c. 4 7, p. 293.

Var.  $\beta$ . Scabiosoides: foliis pinnati-  
partitis ~~nunc vel sub~~ nunc  
parce bipinnatifidis.

Cephalophora scabiosoides, Don  
in Herb. Hook.

Cercostylis scabiosoides, Arn.  
in Dc. Prodr. 7. p. 293 & Hook.  
Journ. Bot. 3. p. 322.



Hub. Plains of the Rio Negro,  
North Patagonia.

The specimens in the present collection <sup>mostly</sup> ~~all~~ bear pinnately parted leaves; but among those of Gillies, Tuckie, &c. all grades occur from entire leaves, of variable breadth, to incised, subpinnatifid, ~~and~~ <sup>or</sup> bipinnately parted. Sprengel's name for the genus, founded like Lessing's upon Sellow's specimens, is the earlier by several years, and nothing stands in the way of its restoration. The genus is the representative, on the plains of Buenos Ayres, &c. of Gaillardia and Agassiria in the counterpart region of North America; and the three genera are very closely related. In the style <sup>Gynostheria</sup> ~~Gynostylis~~ is intermediate between these two genera; from both it recedes in its want of rays;

from Gaillardia also in the  
villous hairs covering the achenia  
instead of forming an involuclate  
envelope.

Plate Guntheria Megapotaunica.

A. Portion of the entire-leaved form;  
Coll. Buenos Ayres, Lieut. Macrae,  
U.S.A. B. Var. <sup>scabrosoides</sup> ~~sp.~~ Fig. 1. Invo-  
lucre and receptacle, 2. A flower, 3.  
Gordia and stamens displayed, 4. A  
stamen, 5. Style, 6. A palea of the  
pappus. The details variously magni-  
fied.

Bahia, Lag., DC.

1. Bahia ambrosioides, Lag.

Bahia ambrosioides, Lag. Mr. Gen.  
Spec. p. 30; Less. Syn. p. 238;  
DC. Prodr. 5. p. 627 (Gray, Pl. Hort,  
p. 99).

Stylisia ambrosioides, Nutt. in  
Trans. Amer. Phil. Soc. (n. ser.) 7,  
p. 377.

Hab. Chili, common in the  
vicinity of Valparaiso; collected first  
by Dombey.

Villanova, Lag.

1. Villanova dissecta, DC.

Hab. Obrajillo, Peru.

This is probably Lagasca's N.



alternifolia, but all the lower leaves are opposite. It is doubtless Hooker's Muxia dissecta, but both ~~ray and disk form~~ the flowers both of the ray and the disk are more than five. The heads are larger and more pedunculate than in V. oppositifolia. The plant essentially a rayless Bahia.

Cephalophora, var.

1. Cephalophora glauca, var.

Hab. Chili, in the vicinity of Valparaiso.

This, the original, is apparently the sole species of the genus, Actinella being a distinct genus, and

C. aromatica, Schrad., with probably  
C. plantaginifolia, DC. being merely  
C. glauca. The size of the head  
is extremely variable.

Galinsoga, Ruiz & Pav.

1. Galinsoga parviflora, Cav.

Stat. Chile, near Valparaiso.

To this species, as already intimated  
(Benth. Bot. Voy. Sulph. p. 120; Gray,  
Pl. Fendl. p. 104, & Pl. Wright. 2. p. 98)  
belongs DeCandolle's Nargaria baracasana: also Schaffner's no. 249, from  
Mexico, referred by Schultze to G.  
(Wiborgia) urticefolia.

2. Galinsoga uticefolia, Benth.

Niborgia uticefolia, H. B. K.

M. Gen. & Spec. 4, p. 257, t.  
389.

Sabazia? uticefolia, DC. Prodr.

5, p. 497.

Galinsoga <sup>(Nargaria)</sup> hispida, Benth. Bot.  
Voy. Sulph. p. 119, forma  
epapposa.

G. uticefolia, Benth. in Arst.  
Compos. Centro Amer. <sup>p. 38,</sup> no. 156;  
forma epapposa.

Itab. Peru, near Obrajillo.

With mere rudiments of pappus, thus  
combining ~~G.~~ G. hispida with G. uti-  
cefolia into one species, which varies  
in the manner of G. parviflora.

Also, a dwarf state, without any  
pappus, near Lima.



Raillardia, Gandich.

Char. auct. Capitulum 4-45-  
florum, homogamum. Involu-  
crum cylindricum, exquisite uni-  
seriale, e squamis 4-14 fere  
valvatum connatis sapis-  
que leviter coadunatis, Recep-  
tamentum convexum seu conicum,  
nudum, pubescens. Flores et  
achenia Dubautia. Pappus  
uniserialis, setis 18-20 rigida-  
tis plumosis. - Frutices vel  
arbuscula Sandwicensis, con-  
fertifolia; foliis ~~coriaceis~~ oppos-  
itis ternato-verticillatis rariusve  
alternis rigidis uni-pluri-  
nerviis; ramis junioribus plerum-  
que hirsutis; capitulis panicula-  
tis; floribus albidis vel luteis?

Raillardia, Gandich, Bot. Voy. Frey  
p. 469, t. 83; DC. Prodr. b. p. 440.

Notwithstanding the filiform  
rays of the pappus, the relation-  
ship of this genus is manifestly  
with Dubautia among the Stele-  
riceae; from which, indeed, it differs  
chiefly in the strictly uniserial  
involucre with the scales almost  
exactly valvate and connivent, if  
not cohering, into a cylindrical  
~~or campanulate~~ cylindraceous cup,  
instead of partially involving the  
subtended flowers; in the naked  
instead of paleaceous receptacle;  
and in the filiform and truly  
plumose setae of the pappus.  
The new species of the present collection  
with nerved leaves strengthen this  
affinity. Both of ~~this most~~  
these striking and most character-  
istic ~~genera~~ Sandwichian genera  
contain many-flowered as well

as few-flowered species. The present collection extends the three described species of Raillardia to nine, and ~~there~~ there are indications that still others will reward the search of future explorers of the elevated region (between 6000 and 11,000 feet) which they principally inhabit. ~~Some of the~~ <sup>most</sup> ~~species~~ <sup>better-known</sup> ~~especially R.~~ ciliolata, linearis, and Menziesii are very variable, as are so many of the characteristic plants of these islands. The known species may be arranged thus:

~~A. Nervosa: folia penninervis reticulata, opposita, dilatata~~



1. Villosa, <sup>-reticulata</sup> with dilated and plane  
feather-veined and reticulated leaves,  
all opposite, the pairs distant,  
the heads very numerous and  
few-flowered. R. latifolia.

2. Uninervis; with narrow, rigid  
one-nerved leaves, destitute of  
veins, ~~sometimes~~ rarely showing  
traces of lateral nerves; -  
Alternate, and their margins revolute,  
the cauline ones recurved, those  
of the flowering shoots few and  
scattered. R. scabra.

Terminately-viticillate or opposite, and  
crowded on the branches;

Plane, or the margins slightly  
revolute, reflexed-spreading. R. laxiflora.  
Carinate or convex below and  
concave or canaliculate above,  
erectish or appressed, <sup>stem in h =</sup>  
<sub>cated.</sub> R. ciliolata.

3. Nervosa; with plane (or somewhat concave) linear-lanceolate, elliptical or ovate, opposite or terminately verticillate crowded, 3-11-nerved leaves.

Leaves narrow, lax and spreading, 3-5-nerved, attenuate at the base; heads 4-12-flowered. R. linearis.

Leaves broader, closely sessile or partly clasping, crowded:

3-5-nerved; heads 7-15-flowered. R. Menziesii.

7-11-nerved, <sup>glandular,</sup> ovate-lanceolate, acute:

heads 10-20-flowered. R. platyphylla.

3-5-nerved, glandular, elliptical-oblong, very obtuse; heads 25-45-flowered. R. arborea.

Obscurely 3-5-nerved, oblong-lanceolate, somewhat imbricated and concave; heads 12-20-flowered. R. struthioloides.

1. Raillardia latifolia, Sp. nov. (Tab.

R. foliis <sup>oppositis planis</sup> ~~oblongis~~ amplex <sup>oblongis</sup> ~~subse-~~  
~~tiolatis~~ penniveniis reticulato-  
venulosis subpetiolatis dissi-  
tis ramisque elongatis patenti-  
bus glaberrimis; Capitulis in  
panicula composita <sup>nuda</sup> effusa  
numerosissimis quadri- (vari-  
us quinque-) floris.

Tab. Mountains of Kanai,  
Sandwich Islands.

"A rambling shrub," with  
long and virgate, glabrous and  
smooth branches; the internodes  
from 3 to 5 inches long. Leaves  
all opposite, plane, 3 or 4 inches  
in length, an inch or an inch and  
a half broad, oblong, inclining to =



ovate, spatulate or obovate, rather  
acute <sup>at both ends, quite entire,</sup> thinly coriaceous, per-  
fectly glabrous and somewhat  
lucid, lightly feather-veined from  
a rather strong midrib, and  
the copious veinlets reticulated  
on both surfaces; the upper  
leaves reduced to bracts. Pan-  
icles from the upper axils and  
terminal, forming a compound  
lax thyrsus of very numerous  
small heads; its slender branches,  
bractlets, pedicels (mostly shorter  
than the heads) and involucre  
cinereous-pubescent. Involucre  
barely 3 lines long, clavate-cylin-  
dric; <sup>scales 4 or 5,</sup> the <sup>concurrent</sup> and lightly  
coherent to near the summit,  
a little shorter than the developed  
flowers. Receptacle, flowers,  
achenes, &c. as in the genus.

generally; in which this most distinct species is very remarkable on account of its ample, dilated, feather-veined and reticulated, distant leaves.

Plate Raillandia latifolia, Fig. 1. A capitulum, with bract and bractlet, enlarged. 2. Inside view of the involucre laid open. 3. Receptacle. 4. A flower. 5. An anther. b. Summit of the style. Various magnified.

2. Raillardia scabra, Db. (Tab.)

R. humilis; caulibus floridis ( $\frac{1}{2}$ -  
2-pedalibus) gracilibus fere herba-  
~~ceis~~ superne parce foliatis fere  
herbaceis e basi puticosa ra-  
mosa decumbente; foliis plenis-  
que alternis linearibus uniner-  
viis supra vel undique hispidu-  
lo-scabris marginibus revolutis  
haud raro denticul parce  
dentatis, inferioribus confertissi-  
mis reflexis; capitulis plurimis  
paniculato-corymbosis 5-7-floris.

Raillardia scabra, Db. Prodr. 6.  
p. 441.

Var.  $\beta$ . Hispidula; gracilior; foliis  
anguste linearibus utrinque  
hispidulis.



Var.  $\gamma$ , leiophylla: foliis angustis  
linearibus lanceolatis vel superne  
obtusis marginibusque hispidis  
ultra-scalis. (Tab. .)

Hab. Hawaii, Sandwich Islands,  
where it was first collected by Menzies;  
frequent on the lava plains, at  
between 3000 and 5000 feet elevation,  
and in the environs of the ~~Great~~  
Great Crater Lupa Pele. Var.  $\beta$ ;  
District of Kilauea, ~~Hawaii~~  $\gamma$ . Environs  
of the Great Crater, and that of  
East Maui.

A well marked species, of which  
the two varieties indicated are slender  
forms, the one with more asperate,  
the other with smoother leaves,  
connecting forms abound in the  
present and in Koenig's collections.  
It is known by its habit, its naked  
and polycapitate corymbose panicle.

icle, and by the narrow leaves  
being almost all of them alternate,  
and one-nerved, with <sup>more or less</sup> revolute  
margins, which are sometimes  
sparingly and sharply toothed.  
Occasionally indications of a pair  
of lateral nerves appear on the  
under surface, but there are no  
visible veins. The ~~midrib~~ costa,  
as in the related species, is impres-  
sed on the upper, and prominent on  
the lower surface. The cauline  
leaves are soon recurved or reflexed;  
they are from 9 to 18 lines long, in  
length, and from one to  $2\frac{1}{2}$  lines in  
width; <sup>the uppermost sparse, shorter, and gradually reduced to bracts.</sup> Pedicels 2 to 7 lines long.

Involute ~~at~~ 3 lines long, of 5 or  
6 narrow and soon separating  
scales, pubescent or nearly glabrous  
externally. Achene tapering at  
the base, but not properly stipitate.

Plate

Raillardia

Scabra, var. leiophylla, Fig. 1.  
A <sup>seen from above.</sup> leaf, enlarged, (2. Lower surface and section of the same, ~~a leaf of the same~~  
a leaf of ~~the same~~ <sup>scabrous form.</sup> 3, 4. Similar views of  
5. A head. 6. A  
flower. 7. Style. The details  
magnified.

3. Raillardia laxiflora, DC.

R. ramis floridis fruticosis saepius  
foliosissimis; foliis latiusculis  
linearibus seu lanceolatis  
planis (vel margine ~~fit~~ sca-  
nunc denticulato) crassis  
uninervis supra  
lucidis scaberrulis seu laeviga-  
tis, <sup>parvisque series reflexis,</sup> plenisque terminato-vorticil-  
latis, superioribus saepe alternis;  
panicula subsimplici laxa;



capitulis plerumque longe pedi-  
cellatis 6-13-floris.

Raillardia laxiflora, D.C. Prodr.,  
b. p. 441.

Stat. Hawaii; on the lava-  
plains near the Great Crater.

This species is intermediate  
between the foregoing and the  
following;—two species which no  
one would <sup>willingly</sup> venture to combine.  
From R. scabra it differs in  
its more <sup>and far more</sup> woody flowering stems,  
on which most of the leaves are  
in ~~the~~ threes, its simpler panicle  
and rather larger heads. The leaves  
are proportionally broader (6-12 lines long  
and 2-2½ lines broad), thicker, and with  
the margins ~~not~~ obscurely if at all  
revolute. On some dwarf specimens

The stem are only sparsely leafy  
toward the panicle, but they are  
commonly crowded up to its com-  
mencement. From R. ciliolata  
it is distinguished by the plane,  
reflexed-spreading leaves, with  
barely scabrous margins, more  
open panicle, slender pedicels,  
&c. Yet there are some ambiguous  
specimens.

L. C. (Tab.)

4. Raillardia ciliolata, DC.

R. ramorissima; ramis usque  
ad apicem confertissime foliosis  
lignosis; foliis lanceolatis lineari-  
oblongis vel obtuse lanceolato-sub-

ulatis crassis uninerviis infra  
convexis seu carinatis supra  
concavis vel marginibus (semper  
hispidulo-ciliatis scabro-ciliola-  
tisve) leviter involutis lucidis  
oppositis vel ternis <sup>plurisque</sup> ~~Raphis~~ erectis  
seu erectiusculis et ramorum  
sterilium imbricatis, capitulis  
paucis subracemosis 5-12-floris.  
— Variat foliis vermicoro-lucidis  
vel opacis, laevigatis scaberrulis vel  
hispidulis, et, in extremis subse-  
quentibus.

Var.  $\beta$ . laxifolia: foliis patentibus  
subplanis minus crebris.

Var.  $\gamma$ . juniperoides: foliis minori-  
bus involuto-canaliculatis  
quasi acerosis confertissimis  
imbricatis; capitulis suboli-  
tariis.



Itab. Hawaii; abundant on  
the high lava-plains, & at and  
above 8000 feet; collected first by  
Minries.

A low, much-branched, rigid-  
shrub, running into many varieties,  
of which the two extremes are noted  
above. Between these Macrae's speci-  
mens, upon which DeCandolle  
characterized the species, is fairly  
intermediate. The leaves vary  
from approximate to ~~dens~~ closely  
crowded, from somewhat spreading  
to erect and imbricated, from termina-  
tely, verticillate to opposite, from flattish  
to strongly canaliculate - concave  
above and carinate - convex below,  
from <sup>hardly more than</sup> a quarter of an inch (in var.  $\gamma$ )  
to nearly an inch in length. In a  
few specimens, ~~also~~ only, especially  
in var.  $\beta$ , which approaches R.

laxiflora, DC., the leaves are widely spreading. They are all veinless and nerveless, except the midrib, <sup>very rigid, mostly</sup> ~~and~~ <sup>obtusely</sup> ciliate margins more or less involute, never revolute, involucre 3 or 4 lines long, generally containing 6 or 7 flowers. Achenia minutely and sparsely hairy or glabrate.

Plate

Raillardia ciliolata.

A. Nearly the originally-described form, <sup>and</sup> with a sterile branch having the leaves more imbricated. Fig. 1.

1. A leaf seen from below. 2. ~~A~~ Portion of same seen from above. B. Var. laxifolia. 3. A leaf, lower surface. 4. Upper surface of the same. 5. A head. 6. A flower. 7. A stamen. 8. Style. C. Var. juniperoides. 9. Leaf <sup>divided,</sup> the upper surface. 10. Style. 11. Achenium and pappus. The details variously magnified.

5. Raillardia linearis, Gandich.

R. ramis laxis patentibus; foliis  
confertiusculis <sup>teretibus, rariusve oppositis</sup> laxe patentibus  
lanceolatis linearibusve 3-5 nervi-  
vis planis <sup>utrinque vel basi angustatis</sup> muc. obsolete  
denticulatis <sup>glabris vel sericeo-pu-</sup>  
berulis; paniculis compositis poly-  
cephalis nudis; capitulis cymulosis  
sc-fasciculatis 3-7- (raro 8-12-)  
floris.

Raillardia linearis, Gandich, Bot.  
Noy. Freyc. p. 469, t. 83; DC. l.c.

Stat. Sandwich Islands; on  
the Kaala Mountains, Oahu. Also  
on Hawaii, on <sup>Moua Kea,</sup> Moua Loa and  
near the Great Crater, and on the  
banks of the crater of East Maui.



Shrub about 6 feet high;  
the branches slender. Leaves less  
rigid than in any of the foregoing  
species, plane, or with the margins  
when dry ~~a little~~ slightly  
revolute, lightly 3-nerved or some-  
times 5-nerved, from 1 to 3 inches  
long and from 2 to 4 lines broad,  
acute or acutish, tapering to the  
base, the larger ones appearing  
somewhat petioled, generally  
<sup>the pubescence when present, fine, and not glabrous.</sup>  
whorled in threes. Panicle the yr =  
solid-corymbose at the summit of  
the branches; the small heads  
usually sessile in threes at the ~~upper~~  
extremity of the peduncles or their di-  
visions; bracts very small. Flowers  
in the specimens from Oahu, and  
part of those from Hawaii from 3 to  
5 in the head, in <sup>one</sup> ~~others from~~ other  
Hawaiian specimen from 6 to 10, and  
in the specimen from Maui, even

12, the heads correspondingly  
larger, ~~fewer~~, less numerous, and  
subsultary on the peduncles.

Gandichand's plate represents  
this species very well, in one of the  
narrower-leaved forms. ~~It is~~  
~~among the nervose species, the~~  
~~one~~

b. Raillardia Menziesii, Sp. Nov.

R. ramis rigidis usque ad apicem  
conferte foliosissimis; foliis ternis  
vel oppositis ellipticis seu lanceo-  
lato-oblongis arcte sessilibus  
planis trinerviis (seu latioribus  
5-nerviis) scabro-hirsutulis nune  
lavigatis; panicula subsim-  
plici; capitulis pedicellatis  
7-15-floris. — Variat foliis laxi-  
usculis subpatentibus seu  
confertis fere imbricatis, oblongo-  
lanceolatis seu ovato-ellipticis.  
(latioribus quandoque rariter  
denticulatis), opacis hirsutulis  
vel nitidis glabratiss, margini-  
bus hispidulo-ciliatis.

Hab. Sandwich Islands; banks  
of the crater of East Mani (broad  
leaved forms, one of them <sup>(will)</sup> answering



to specimens collected by Menzies  
on (Hawaii); Moma Kea, H. Ha-  
waii, <sup>the</sup> narrow-leaved forms.

Shrub 2 to 6 feet high, rigid.  
Leaves from 10 to 18 lines long, and  
from  $3\frac{1}{2}$  to 9 lines broad, plane, in  
the broader forms <sup>almost exactly</sup> elliptical and  
obtuse ~~at both~~ or rounded at  
both ends, or the apex barely apic-  
ulate, the narrower ones less  
blunt, rigid, even the broadest  
often only three-nerved, <sup>and</sup> the main  
veinless. Panicle rather small,  
open: pedicels 3 to 6 lines long.  
Involucre of 5 to 8 scales, exter-  
nally slightly or densely pubes-  
cent.

~~While the narrow-leaved forms~~  
~~approach R. linearis, the broader~~  
~~ones are closely~~

The forms which I must  
now consider as all belonging to  
one species fill the wide inter-  
val between R. linearis and  
the following striking new spe-  
cies; ~~the~~ some of the narrow-  
leaved <sup>specimens</sup> ~~and~~ with fewer flowered heads  
approaching R. linearis, while  
the broader ones are closely related  
to R. platyphylla and <sup>R. arborea</sup> ~~viscosa~~.

~~γ. Raillardia platyphylla, sp. nov.~~  
~~R. ramis validis foliosissimis;~~  
~~foliis ternis vel oppositis ovato-~~  
~~lanceolatis semianaplexicantibus~~

7. Raillardia platyphylla. Sp. Nov.

R. ramis validis conferte foliosis-  
simis; foliis oppositis lanceolatis,  
ovatis e basi semiamplexicauli  
ad apicem <sup>sensim</sup> ~~atque~~ angustatis  
subacutis rariter denticulatis  
planis 7-11-nerviis undique  
scaberrimis, junioribus glandu-  
loso-viscosis; panicula nuda;  
capitulis 10-20-floris. - Variat  
foliis angustioribus - ~~terminis~~ oblongo-  
lanceolatis ~~atque~~ <sup>terminis</sup>.

Hab. Maui, Sandwich Islands,  
"on the summit of the dividing  
ridge of the ~~crater~~ crater-  
like cleft of Mouna Haleakala,  
at the elevation of about 7500  
feet."

Apparently a rather large  
shrub; the leaves 2 or 3 inches



inches long, and fully an inch wide at the broad ~~base~~, thence tapering gradually to the apex, and conspicuously 9-11 nerved; or in <sup>one specimen</sup> (a sterile branch), where they are in threes, only 6 to 9 lines wide at the base and less tapering, <sup>blunter, and</sup> with 7 to 9 nerves; the surface very scabrous to the touch from minute papillae; the ~~young~~ nascent leaves glutinous from a fine glandular pubescence. Young branches and the inflorescence minute and glandular, as also the exterior of the involucre. ~~Very few heads remain~~ The flowers had nearly all fallen from the specimens; but the involucre appear to be about the ~~length &~~ size of those of the following nearly allied species, except that they are narrower and the flowers much fewer.

8. Raillandia arborea, Sp. Nov. (Tab. .)

R. caule arboreo; ramis validis con-  
hirsutis - ferte foliosis; foliis op-  
positis ternisve elliptico - seu  
elongato - oblongis utrinque ob-  
tusissimis acete sessilibus planis  
3-5-nerviis glanduloso - scabridis,  
junioribus viscoso - pubescentibus;  
panicula <sup>2</sup> simplici basi foliosa cum  
involucro ~~typo~~ 9-14-phyllis 25-45-  
flore hirsutis et glanduloso-visco-  
sis.

Tab. Hawaii; "in the high pas-  
toral District of Mouna Kea: scat-  
tered trees in company with those  
of Edwardsia.

"A small tree, twenty feet high,  
with the trunk a foot in diameter",  
according to Dr Pickering. Branchlets,

inflorescence, and all young parts  
hirsute (as is common in the genus)  
and also glandular-pubescent. Leaves  
green, not very thick, plane, rather  
spreading,  $1\frac{1}{2}$  to 2 inches long, 6 to 9  
lines wide, all entire, more glandu-  
lar but less scabrous than those  
of R. platyphylla, the base not  
dilated, sessile by a broad but hardly  
clasp ing insertion. Heads rather  
few or numerous in a somewhat  
obovoid panicle, pedunculate, and,  
when the inflorescence is compound,  
pedicelled. Involucre  $4\frac{1}{2}$  lines long,  
very densely glandular-pubescent, ~~the~~  
campanulate, usually of 12 or 13  
~~scales~~ lightly adherent scales, and  
containing a larger number of flow-  
ers than any any other species.  
Receptacle conical, obtuse, lightly  
alveolate, pubescent. Ovary sparsely



N.W. (Tab. )

9. Raillardia struthioloides, Sp. 1

R. arborescens; foliis terminis secus  
ramos imbricato-confer-tis ob-  
longo- seu elliptico-lanceolatis  
subacutis arcte sessilibus leviter  
concavis sub-3-5-nerviis cinereo-  
hispidulis vel scabris<sup>idis</sup>, junioribus  
hirsuto-ciliatis; panicula seu  
racemo simplici; involucro 6-9-  
phylo 12-20-floro.

Hab. Hawaii; on Mouna Kea  
with the preceding, extending to the  
elevation of 11,500 feet.

A shrub, or "at the elevation  
of 9500 feet, sometimes a tree, twenty  
feet high, with the trunk nine  
inches in diameter, the branches  
overhanging." Leaves, especially  
on sterile branchlets, very closely

crowded or imbricated, erect or  
at length erect-spreading,  $1\frac{1}{2}$  to 2  
inches long, 4 to 7 lines wide,  
rigid, more or less concave, at  
least when young and in the dried  
state, pale and opaque, or sometimes  
rather lucid; the midrib not  
prominent, the other nerves mostly  
obscure or obsolete on the lower, ~~sur-~~  
~~face~~, but more apparent on the  
~~upper~~ upper surface, in all 3  
or 5, the ~~latter pair~~ lateral pair  
indistinct. Branches and inflores-  
cence villous or hirsute-pubescent,  
not glandular. Heads on rather  
slender, at length recurved pedicels,  
several, in a ~~small~~ raceme or  
simple panicle. Involucre <sup>pubescent,</sup> about  
the length of that of the preceding  
species, but narrower, and much  
fewer-flowered. Receptacle small,

obtusely conical, pubescent.  
Achenia sparingly pilose or  
glabrate.

A striking species, tending  
in ~~Plate~~ some respects to ally  
R. ciliolata with the plurinerved  
species.

Plate

Raillardia

struthioides; a flowering branch.

Fig. 1. Tip of a sterile branch, with  
younger leaves. 2. View of the upper  
surface of a leaf, showing the nerves,  
t. 3. A flower magnified. 4. Corolla  
and stamens displayed. 5. Style  
more magnified. 6. Achenium and  
pappus magnified.



Hirsute. Achenia glabrate, strongly  
5-ribbed.

Plate

Raillardia arborea.

a flowering branchlet, Fig. 1. A  
leaf with the glandular scabrosity  
~~represented~~ shown. 2. A flower en-  
larged. 3. The corolla and stamens  
displayed. 4. A stamen more mag-  
nified. 5. Summit of the style more  
magnified. 6. Receptacle magnified.  
7. Achenium and pappus. 8. Ache-  
nium ~~transverse~~ transversely divi-  
ded. 9. A seta of the pappus more  
magnified.

Dubautia, Gaudich.

Char. auct. Capitulum 7-25-  
florum, Monogamum, Involucrum  
subuni<sup>fructiferum lacuna</sup>seriale; squamis 8-10 cym-  
biformibus flores totidem amplex-  
antibus. Receptaculum paleis  
squamis involucri similibus ~~ful-~~  
flores nonnullos aut omnes interi-  
ores fulcrantibus ornatum. Corol-  
la tubulosa, tubo cylindrico post  
anthesin <sup>sepe</sup> recurvo, limbo 5-fido,  
lobis revolutis. <sup>(purpurea)</sup> Antherae, max  
exsertae, caudatae; filamenta sub  
apice articulata. Styli rami  
revoluti, cono <sup>complanato</sup> acuto, hispidulo ter-  
minati. Achena 4-5-gona deorsum  
attenuata, hispida. Pappus palea-  
ceus, uniserialis; paleis 15-20 seti-  
formi-subulatis lanceolatisve fimbriolatis. - Frutices Sandwicensis,

2

plantaginifolii; ramis teres-  
tibus, novellis hirsutis, vetus-  
tis cicatricibus <sup>crebris</sup> <sup>ovatis</sup> annulatis; fo-  
liis oppositis confertis (rigidis)  
basi angustata amplexicaulis  
chartaceo-coriaceis <sup>denticulatis</sup> nervosis; capit-  
ulis fasciculatis paniculatis, flori-  
bus flavis vel purpureiscentibus.

Subantia, Gandich. Bot. Voy. Freye,  
p. 468, t. 84; Less in Linnaea,  
b, p. 163 <sup>4 Syn. p. 1247</sup>; Hook. & Arn. Bot.  
Beech. Voy. p. 88; DC. Prodr.  
5, p. 680; Gray in Proceed. Amer. Acad.  
5, p. .

The best <sup>of the former</sup> published descriptions  
is that of Lessing, who rightly  
ascribed to D. plantaginea a  
couple of paleae on the receptacle.  
These, although overlooked by Hooker  
and Arnott, and therefore, perhaps,



omitted by DeCandolle and Endlicher,  
are generally, if not always, present  
whenever the flowers are more  
numerous than the scales of the  
involucre, subtending those <sup>interior</sup> flowers.  
In a new species of the present  
collection, with many more flowers  
in the capitulum, each flower is  
subtended and its achenium em-  
braced by ~~a scale~~, such a palea.  
The flowers in all are apparently  
pale yellow turning orange or  
purple with age.

1. *Subantia plantaginea*, <sup>Gaudich. l.c.</sup>

9. foliis glabris glabrisve elonga-  
to-lanceolatis sensim acumina-  
tis basi modice angustatis  
plurinerviis; capitulis parvis 7-  
10-floris ~~in racem~~ numerosis-  
simis in ramos divergentes  
folioso-bracteatos paniculae thys-  
soides magnae congestis;  
receptaculi parvi paleis 1-3;  
corollae tubo gracili limbo subito  
saepe abrupte campanulato duplo  
longiore pappi <sup>oxydi</sup> ~~paleas~~ paleas  
~~aristiformes~~ ~~subulato~~ setiformes barbellatas  
subsuperante.

Ital. Sandwich Islands; on  
the mountains of Oahu, where it  
was collected by Gaudichaud, Cham-  
isso, &c.; but Perry has gathered it  
also on ~~Oahu~~ Hawaii.

The leaves, as Dr. Pickering remarks, strikingly resemble those of ~~Plant~~ the shrubby Plantago of the same Island (P. princeps); they vary from 4 to 8 inches in length, and from 6 to 15 lines in width, their denticulations minute, the surface dull. The heads do not exceed four lines in length. The smooth tube of the corolla elongating with age and usually curving outward equals or exceeds the pappus. In Gaudichaud's original specimens the ~~panicle~~ inflorescence is undeveloped, so that the published figure gives no idea of the ample thyrsoid compound panicle, with divaricate branches, the lower branches often five or six inches <sup>long</sup> ~~in length~~, and naked at the base for half that length, these and their <sup>crowded</sup> ramifications subtended by leafy bracts. Moreover the leaves ~~exhibit~~ taper at the base far more than in Gaudichaud's plate.



2. Dubautia laevigata, Sp. Nov.

D. foliis oblongo-lanceolatis terosum  
longe attenuatis quasi petiolatis  
ultra medium acute serratis  
laxe inconspicue plurinerviis nitidis  
rarnisque glaberrimis; panicula  
thyrsiformi pedunculata nuda;  
receptaculo parvo.

Stat. Sandwich Islands, in the  
mountains of Kauai.

A single incomplete specimen  
only was collected, with 'withered in-  
flescence, from which the flowers have  
long fallen. It may prove to be  
only a variety of the foregoing species;  
but apparently the stem or branch  
is less woody, the foliage less com-  
pacted, and the small panicle  
long peduncled and naked. This is  
softly pubescent, while the stem below

and the leaves, are very glabrous. The latter are lucid, especially their upper surface, rather shorter but broader than those of *D. Plantaginea*, their nerves similar but delicate and inconspicuous, scarcely stronger than the intermediate reticulated veinlets; the narrowed base more petio-  
 liform. The heads, as appears from the persistent scales of the involucre, are hardly larger than those of the foregoing species, the receptacle sim-  
 ilar.

(Tab. )

3. Dubautia laxa, Hook. & Arn.

D. foliis glabris vel strigoso-  
hispidis oblongo-lanceolatis  
variusve ovali-<sup>sen gynealo-</sup>oblongis antice  
agute serrulatis acuminatis des-  
sum longe attenuatis laxe nervatis;

capitulis parvulis <sup>(cymosis</sup>  
~~brevem digestis~~ <sup>in cymatibus</sup> 10-15-floris, floribus  
interioribus sepiissime paleatis;  
corolla pappi (saepè rufi)  
paleas subulato-aristiformes  
~~serrato-fimbriolatas~~ <sup>vix super-</sup> ~~add. glandulose~~, tubo  
glanduloso,

Dubautia laxa, Hook. & Arn. Bot. Beech.  
Voy. p. 87.

Hab. Oahu, Sandwich Islands,  
on the mountains behind Honolulu.  
The broader-leaved and strigose-hispid  
form was also gathered on Lanai  
by Kemy.

This species is not well named,  
the inflorescence being less lax than  
that of D. plantaginea in fully  
developed specimens. The inflores-  
cence is quite different from that  
of the above-named species, being a



short, rather simple or sparingly  
compound, corymbose cyme. The  
heads, ~~are~~ seldom numerous, are  
solitary <sup>mostly</sup> or in threes at the summit  
of the peduncles; they are sometimes  
scarcely larger than those of D.  
Plantagina, but ~~are~~ sometimes  
twice as large with more numer-  
ous flowers, ~~as in the former~~  
~~figured~~ <sup>(and indeed they often appear</sup> as if two or three heads  
were ~~merged~~ confluent into  
one. All, or nearly all the flowers  
are subtended, <sup>the asperities</sup> and partially em-  
braced, either by ~~a~~ a scale of  
the involucre or by <sup>similar</sup> a receptacular  
palea. The corolla scarcely if  
at all exceeds the pappus in length,  
its tube being much shorter than  
that of D. Plantagina, and also  
more or less glandular instead of  
<sup>and the ~~floral~~ throat is not so suddenly amplified</sup> smooth and naked. The pappus,  
which generally reddish or purple,

Consists of simple, but less barbellate  
aristiform paleae, their surfaces more  
or less pilose, but the ~~perianth~~ mar-  
gins rather serrate-fimbriate.  
The leaves are very variable in form,  
but generally shorter and almost  
always proportionally broader than  
in D. plantaginacea; they vary from  
 $1\frac{1}{2}$  to 5 inches in length, and from  
half an inch to an inch and a half  
in width; rarely glabrous, they  
are commonly hispid with short  
appressed histles, at least <sup>on</sup> the lower  
surface, sometimes strikingly on both  
sides, especially those of young shoots.

Plate B. Subantia laxa, <sup>(Fig 1.)</sup> A  
branchlet of a form with <sup>rather few and</sup> larger capitula,  
of the natural size. 2. Receptacle  
with one remaining interior flower and its  
sutending chaff, and two marginal flowers  
with their sutending involueral scales, magnified.  
3. One of the narrow paleae of the pappus, more mag-  
nified.

4. Subantia paleata, sp. nov. Tab. )

D. foliis strigoso-hispidulis oblongo-lanceolatis utrinque parum attenuatis <sup>antice subdenticulatis</sup> ~~plurimerviis~~; capitulis multi-(12-30)-floris; corymbosis paucis magnisculis; receptaculo elevato ~~indigne~~ paleis <sup>plurimerviis</sup> <sub>1</sub> ~~ornato~~; corollae tubo puppi paleas lanceolatas margine erosas ~~denticulatas~~ superante, fance vix ampliata, limbo 5-partito.

Hab. On the Mountains of Kanaï, one of the Sandwich Islands.

Base of the stem unknown. Branches very minute, as also the inflorescence, &c. Leaves  $1\frac{1}{2}$  to 3



inches long, from 5 to 8 lines broad,  
not acuminate nor much nar-  
rowed ~~down~~ at the connate-clas-  
ping base, minutely and densely  
hispid on both sides with short  
strigose hairs. Peduncles terminal  
and from the uppermost axils,  
short, bearing from 3 to 7 or 8  
corymbose heads, which are larger  
than in any other species, being 5  
or 6 lines long; the scales of the  
involucre broader, externally stri-  
gose-cinereous; the flowers ~~gener-~~  
ally numerous, from 20 to 25 or even  
30, but in one small specimen  
only 12 to 14.

The receptacle  
in the many-flowered heads is much  
elevated but narrower <sup>and</sup> each flower  
is subtended by a palea similar to  
an involucreal scale. The tube of  
the corolla is elongated beyond the  
pappus, and after anthesis cur-

ved outwards, as in D. plantaginea,  
but the limb is more deeply  
cleft, and the throat scarcely  
at all dilated. Anthers, style,  
and <sup>ovary</sup> achenia similar. But the  
pappus consists of lanceolate or  
oblong-<sup>lanceolate</sup> ~~linear~~, pointed, not aristiform,  
palea, proportionally short, ~~with~~  
and with merely crose-denticulate  
or somewhat lacinate  
X margins. — The species is a most  
distinct and remarkable one.

Plate X. Subantia pa-  
leata: branch, of the size of nature.  
Fig. 1. Section of the receptacle, ~~leaving~~<sup>with</sup>  
~~two marginal flowers subtended by the involu-~~  
~~cral scales and an interior one with its~~  
~~subtending palea.~~ with 3 flowers  
remaining and the subtending scales and palea.  
2. One of the palea displayed. 3. A flower. 4.  
A stamen. 5. The style. 6. A palea of the  
pappus. The details variously magni-  
fied.

Wilkesia, W. G.

Capitulum monogamum, multi-  
florum. Involucrum campan-  
ulatum, ~~14~~<sup>14</sup>-28-dentatum, ~~et~~ hinc  
inde subincisum, herbaceo-mem-  
branaceum, dentibus villos-  
ciliatis. Receptaculum convexum,  
nudum, glabrum. Flores  
hermaphroditi, conformes. Corolla  
tubulosa, glabra, e tubo gracili  
cyathiformes, lobis 5 brevibus  
recurvis. Antherae max exsertae,  
e caudatae. Styli rami involuti,  
cono hispidulo complanato apice  
subulato superati. Achenia  
elongata, compresso-quadrang-  
ulata, ad angulos <sup>seu</sup> costas his-  
pidula. Pappus paleaceus,  
persistens, uniserialis, paleis  
8 lanceolato-subulatis nris.



(Sandwicensis,  
ciliatis. — Arbuscula?) (Yucca-  
formis; ~~orgy~~ caule simplici  
orgyali seu biorgyali, foliis  
linearibus ~~eniformi~~ gladiatis  
vel superioribus lan-  
ceolatis coriaceis crebre nervu-  
losis proter margins tomen-  
toso-ciliatos glabris <sup>(nascentibus)</sup> ~~per~~  
~~sericeis~~) ~~bascos~~ in verticillos propin-  
quos polyphyllis congestis  
et per bascos pl. m. coadunatis,  
pedunculis gracilibus glandu-  
losis 1-5-cephalis ex axillis  
fol. suppr. ortis paniculam  
amplam laxam efficientibus;  
capitulis fructiferis post an-  
thesin mutanti bus; ~~fructibus at~~  
~~videtur per~~

1. Wilkesia gymnoxiphium. Sp. Nr.  
(Tab. .)

(Vide Gray in Proceed. Amer. Acad.  
Sci., ann. 1849, p. 397, & in Pro-  
ceed. Amer. Acad. 2, p. 150, & 5, p. )

Itab, Kauai, one of the ~~Sand~~  
Sandwich Islands, "along the lee-  
ward verge of its tabular sum-  
mit, at the elevation of about  
3700 feet."

The simple stem of this  
very striking arborescent Com-  
posita, according to Dr. Pickering's  
memorandum, is "simple, from  
6 to 14 feet high; the leaves not  
crowded (as in Argyroxiphium), dis-  
tinctly verticillate, or even united  
for an inch or more, and smooth,  
with a white woolly margin". How  
far the stem is ligneous is not  
recorded. The flowering summit is  
herbaceous or nearly so, with a  
large pith. The lower leaves  
preserved are a foot long, only  
4 or 5 lines wide, apparently ~~summit~~  
<sup>many</sup> ~~rest~~ in the verticil, their bases coal-  
<sup>more bract-like</sup> escent for two inches. The leaves

in and below the panicle are lanceolate, ~~from 3 to~~ less rigid, from 3 to 5 inches long, 6 to 9 lines wide, from 6 to 12 in a whorl, and more or less united by their bases, the whorls half an inch or an inch apart. Peduncles about 6 inches long, slender, glandular-pubescent, naked to near their summit, where small bracts subtend two or three slender, at length nodding pedicels, bearing each a rather small naked head. Involucres half an inch long, and of somewhat greater breadth, not bracteate, of a thin and rather foliaceous <sup>minutely glandular, otherwise</sup> texture, glabrous, except the villous margins of its <sup>in fruit at length separating from the base,</sup> teeth or short lobes. Flowers 50 or more, moderately exserted, apparently whitish or flesh-color; their whole general structure that



similar to those of Dubautia  
and to the disk-flowers of  
Argyroxiphium; the pappus  
that of the former; the recepta-  
cle as in the latter.

Being one of the most stri-  
king as well as botanically re-  
markable of the plants discov-  
ered ~~in the~~ by the South Pacif-  
ic Exploring Expedition, this genus  
will very appropriately bear the  
name and commemorate the  
distinguished scientific services  
of the Commander of the Expe-  
dition, Capt. Charles Wilkes,  
the author of the Narrative of  
the voyage, its Meteorology, and  
its Hydrography. ~~Since~~

Since the characters of Milkesia  
were briefly indicated, in 1849, ~~and~~  
~~in the~~ discovery that the palea  
which <sup>interpose</sup> ~~are~~ ~~interpose~~ between the

disk and the ray in Argyroxiphium are gamophyllous, demonstrates the close affinity of this genus with the latter, - from which, indeed, it differs only in the regular paleaceous pappus, and in the entire absence both of ~~the~~ <sup>the</sup> ray-flowers and of their subtending bracteole.

Plate Milkesia gym-  
naxiphium; flowering summit, of  
the size of nature. Fig. 1. Can-  
line <sup>natural size,</sup> leaves; 2. Vertical section  
of a head. 3. Involucre displayed,  
4. Receptacle. 5. A flower. 6. Stamens,  
7. Summit of pistil. 8. Achenium  
and pappus. 9. A palea of the pap-  
pus. & The details variously magni-  
fied.

Argyroxiphium, DC.

Char. reform. <sup>(Nemiosphaericum,</sup> Capitulum hetero-  
gamum, multiflorum; flori-  
bus radii uniserialibus ligu-  
latis femineis, disci herma-  
phroditis tubulosis. Involu-  
cum ~~tot sub-biseriale~~ uniseriali, squamis  
numerosis (tot quot ligulae)  
discum subaequantibus <sup>angustis</sup> convolu-  
tis achenia radii involventibus.  
Receptaculum convexum vel  
conicum, inter radium et dis-  
cum <sup>gerens</sup> ~~seriem~~ paleas uniseriales  
gamophyllas, ceterum nudum.  
Ligulae breves, plerumque tri-  
dentatae. Corollae fl. herm.,  
glabra, e tubo gracili sursum  
ampliata, 5-dentata. Anthere  
scaudatae; filamenta sub apice  
articulata. Styli rami lin-



cares, fl. herm. cono complana-  
to hispidulo superati. Achenia  
elongata, glabra, 4-5-angulata,  
angulis prominentibus costae fr-  
mitibus, radii incurva, aut  
omnia prater corollam  
~~brevissimam~~ <sup>brevem</sup> calva, aut disci  
pappi <sup>persistente</sup> paleis paucis valde  
inequalibus subconcretis, super-  
ata. — <sup>Plantae Martiaceae?</sup> ~~Herbaceae~~ Sandwicensis, in-  
signes; <sup>tri-sexpedales;</sup> ~~crasse majores~~ <sup>argyreae;</sup>  
caule <sup>simplici</sup> percrasso foliis <sup>angustis</sup> ~~linearibus~~  
<sup>pugionibus</sup> ~~crassis~~ formibus rigidissimis  
plerumque sericeo-argenteis  
imbricato-confertissimis ~~pluri~~  
undique horrente panícula  
ampla laxius foliata termi-  
nato; pedunculis viscoso-pu-  
bescentibus; capitulis nutan-  
tibus; floribus ~~prospersis~~ <sup>ascantibus?</sup>  
radii luteis, disci roseo-purpureis.

Argyroxiphium, DC. Prodr. 5,

p. 668, & Mem. Comp. p. 27, t.  
8; Hook. & Pl. t. 75; Gray  
in <sup>Proc. Acad. Sci. 1849, l.c.</sup> ~~Proc.~~ Amer. Acad. 2, p.  
159.

The involution of the scales  
of the involucre around the ray-  
achnia is represented in Hooker's  
figure, above cited, but not in de  
Candolle's, who however represents these  
achnia as incurved. The ~~interp~~  
circle of paleae interposed between  
these and the disk-flowers was  
published by me in the year 1849,  
along with the characters of a new  
species and of the foregoing, nearly  
allied genus, and the ~~very obvious~~ ~~same~~ affinity  
with the Madieae ~~suggests~~ indica-  
ted. The union of these marginal  
paleae into a cup (which, however,  
is fissile with age), as in several  
Madieae was noticed later. These

characters, and the want or extreme reduction of the pappus in the ray, are conclusive as to this relationship, with which even the habit is not incongruous. The glandular-glutinous inflorescence, &c. is almost universal in that group, several Californian species of which have appressed-silky radical leaves. These plants, therefore, are the princes of a race (the Madieae) which ~~belong~~ are otherwise restricted to the adjacent coast of the American continent (from Oregon to Chili); and the while Wilkesia - an Argyroxiphium wanting the ray-flowers and their involucreal bracts, ~~with the~~ <sup>discoid</sup> Dubautia ~~an~~ and a sort of gigantic Lasthonia - and Raillardia - together comprising the characteristic Composite of the Sandwich Islands, have also



only American affinities. Moreover, the two species of the present genus differ from each other in a manner characteristic of their American relatives, namely, ~~as~~ <sup>(Heterogynae)</sup> ~~Lasthenia glabrata, from Lasthenia~~  
~~prosp., Brunelia (Baeria) argyrostoma,~~  
~~or (Otilomeis) calva,~~ in the presence or absence of pappus. See *Planta Wrightiana*, p. 123 for a list of analogous instances, which could be still further extended.

1. Argyroxiphium Sandwicense, DC. (Tab. x)

A. ligulis longiusculis 12-16;  
stylis fl. disci ramis breviter  
obtusaeque appendiculatis; papp-  
achenis disci inaequaliter palea-  
co-papposis; receptaculo convexo,

Argyroxiphium Sandwicense,  
Dc. l.c.; Hook. l.c.

Argyrophyton Douglasii, Hook.  
in Comp. Bot. Mag. 2, p. 163,  
sine char.

Hab. Hawaii, on Mouna  
Kea and Mouna Roa, at the  
elevation of from 6300 to 12000  
feet.

Heads ~~rather~~ less than an  
inch in diameter. Scales of the  
involucre lanceolate, acuminate,  
villous externally with <sup>and some glandular</sup> viscid hairs.  
Ligules 5 or 6 lines long, <sup>rose-color or purple</sup> linear-oblong  
or somewhat cuneate, sometimes  
emarginate, as in our figure, some-  
times trifid at the apex, as represen-  
ted by Hooker and DeCandolle, ~~but now~~  
~~Color not recorded, apparently~~  
~~rose or purple.~~ Receptacle barely

half an inch broad convex,  
glabrous and naked, except at its  
margin, where it bears a circle  
of about 24 lanceolate paleae  
which are united by their edges  
to near the summit into a  
membranaceous <sup>externally viscos-subescent,</sup> at length fis-  
side cup, <sup>which somewhat exceeds the involucre,</sup> branches of the style  
in the hermaphrodite flowers  
narrowly linear, minutely hairy  
externally, margined within with  
strong stigmatic lines, tipped  
with a short and obtuse minutely-  
hispid cone. Achenia glabrous,  
with four or sometimes five sali-  
ently, costate angles, about 5 lines  
long, ~~the~~ terminated by a short  
and coriaceous <sup>or corneous</sup> corolla, which  
in the ray is truncate, <sup>sometimes,</sup> or ~~flat~~  
would seem from Debandolle's ~~also~~  
analyses, produced on the poste-  
rior side into a strong tooth



or auricle, but in the disk  
is extended into a manifest pappus  
of four or five or more coriaceous  
paleae, more or less coriiform  
concreted, and irregular, the  
outer side of the <sup>crown</sup> ~~leaf~~, or one  
or two of the outer paleae being  
considerably <sup>extended or</sup> elongated. Leaves  
dagger-shaped or bayonet-shaped,  
8 to 16 inches long, 5 or 6 lines  
wide, in some young plants  
much smaller and narrower,  
very densely silky and brightly  
silvery, with a coat of appressed  
villous down, a part of which  
<sup>often</sup> wears away or becomes detached  
with age, leaving a fine grayish  
<sup>silky</sup> pubescence, or ~~as the~~ is soon  
deciduous from the uppermost  
and floral leaves, which <sup>green</sup> are vis-  
coso-pubescent, like the peduncles  
and ~~the~~ involucre. Stem 2 or

3 inches in diameter, tapering into the panicle, with a large pith, and a thin woody zone; the whole ~~rather~~ herbaceous, rather than fruticose.

Plate B. Vertical section of an involucre and receptacle, showing a ray-flower, its ~~achene~~ ovary involved in the subtending involucreal scale, 2. Similar section, showing the involute scales of the involucre outside of the cup of ~~the~~ gamophyllous palea of the margin of the receptacle. 3. Receptacle, 4. A ray-flower with its involucreal scale, more enlarged, 5. Style from the same. 6. A ~~fix~~ disk-flower. 7. Summit of the style of the same. 8. Acheneum and pappus of a disk flower. 9. Pappus and summit of an acheneum of another disk flower. 10. Acheneum of a ray-flower. — Various magnified.

2. Argyroxiphium macroceph-  
alum, Sp. nov. (Tab. )

A. ligulis 20-30 brevibus; stylis  
fl. disci ramis cono acuto  
superatis; pappo nisi cornu-  
la brevissima disciformi  
nullo; receptaculo conico.

Argyroxiphium macrocephalum  
Gray, in Proceed. Amer. Ass. S. C.  
p. 160.

Tab. Maui, on <sup>Mouna</sup>~~Mauna~~  
Haleakala, "extending from the  
elevation of 9000 feet to within  
thirty feet of the summit.

In general appearance this  
must closely resemble the A.  
Sandonense; for so acute an



observer as Dr. Pickering did not distinguish it from the Hawaiian species. But the heads are larger, <sup>at least</sup> an inch and a half in diameter; the ligules are considerably more numerous and shorter, only three or four lines in length; the receptacle is conical, its height equalling the breadth of the base; the appendages of the style in the hermaphrodite flowers are like those of Durbania and Raillandia, and the pappus in both ~~ray and~~ disk and ray is reduced to a very narrow entire corolla. Other-

wise the structure is the same. <sup>A partially colored drawing of a ~~recent~~ head of the recent plants makes the rays deep pink, the disk yellow.</sup> Dr. Pickering mentions another species, on Mount Haleakala at a less elevation, between 5500 and 9500 feet "with the leaves green and smooth". Of this

only three or four leaves are  
in the collection. They are 9  
inches long, less than 3 lines wide,  
<sup>and delicately 3-5 nerved</sup>  
glabrous beneath, silky - puber-  
ulent above and on the margins,  
and probably indicate a new species  
either of this genus or the preceding.

Plate Argyroxiphium  
macrocephalum; leaves, and portion  
of <sup>a</sup> flowering summit, representing a  
few ~~out~~ of the very numerous (50-  
100) heads of the panicle, of the nat-  
ural size. A distant view of a  
whole plant in the back ground,  
either of this or the preceding spe-  
cies, from a sketch by one of the  
artists of the Expedition.

Plate A. Fig. 1. Head  
with peduncle and bractial leaves  
of A. macrocephalum, <sup>of the natural size.</sup> 2. Vertical

section of the receptacle, circle of united pulee, and involucre, 3. A small portion of involucre and united pulee transversely divided. 4. Receptacle. 5. A ray-flower with its involucreal scale. 6. Summit of style of the latter. 7. ~~A stamen.~~ An hermaphrodite flower. 8. A stamen. 9. Summit of ~~its~~ the style of fig. 7. 10. An achenium of the ray. The details variously magnified.



Madia, Molina.

1. Madia sativa, Molina.

Hab. Chili; common around  
Valparaiso.

Cotula, Linnaeus, Garten.

1. Cotula coronopifolia, Linnaeus.

Hab. Sydney, New South Wales.

A species now so widely scattered over  
the temperate parts of the Southern  
hemisphere and some ~~parts~~ portions  
of the northern, that it is hard to  
guess at its original home. It  
is not found in Eastern North America,  
but it has been met with in Cali-  
fornia.

2. Botula (Strongylosperma) australis, <sup>Stork. f.</sup>

Bracyclius australis, Sieb. Pl. Exsicc.  
no. 331; Spreng. Syst. 3. p. 497.

Strongylosperma australe, Less. Syn.  
Comp. p. 261; Db. Prodr. 6. p. 82.

Botula microcephala & ovaria, Db.  
Prodr. 6. p. 79?

C. bunninghamii, Stork. f. in Sched.

C. australis, Stork. f. Fl. N. Zeal. 1,  
p. 129, & Fl. Tasm. 1, p. 191, <sup>+ 50.</sup>

Pleiogyne australis, C. Koch in  
Bot. Zeit. 1, p. 40.

Hab. Sydney and Hunter's River,  
New South Wales.

Leptinella, Bass., Stork. f.

1. Leptinella scariosa, Bass.

Leptinella scariosa, Bass. in Bull.  
Philom. 1822, p. 127, & Dict. Sci. Nat.

2b, p. 67; Db. Prodr. 6, p. 141; Stork.  
p. Fl. Antarc. 1, p. 28, & 308. (2, p.)

L. pinnata, Cass. l.c.?

L. acanoides, Stork. & Arn. Jour. Bot.  
3, p. 325; Remy in Gay Fl. Chil. 4,  
p. 249.

Stat. Orange Harbour, Fuegia;  
on rocks near the coast.

Dr. Storker has identified,  
extended, and illustrated this genus  
in a manner which leaves little  
to be desired. It may be noted that  
Remy has taken the view that the  
present species is not Cassini's L.  
scariosa; but this opinion, no  
less than Dr. Storker's to the contrary,  
rests upon circumstantial evidence.  
At least I could find no specimens  
at Paris named by Cassini.



2. Leptinella propinqua, Stork. f. l. c.

Hab. Lord Auckland Islands;  
on banks near the sea. Dr. Holmes,

A single, but well marked  
specimen, mingled with those of the  
following species, of which it seems  
more likely to be a form than  
of the preceding, to which Perry  
refers it.

3. Leptinella lanata, Stork. f.

Leptinella lanata, Stork. f. Fl.  
Nature, 1, p. 26, t. 19.

Hab. Lord Auckland Islands;  
abundant on rocks overhanging the  
sea.

Abrotanella, Cass.

Abrotanella, Cass. in Dict. Sci. Nat.  
36, p. 27; Ab. Prodr. 6, p. 141; Hook. f.  
Fl. Martav. 2, p. 208.

Oligospori Spec. Cass. in Ann. Sci.  
Nat. 5, p. 104, t. 3, f. 4.

Veratella, Trineuron, & Scleroleima,  
Hook. f. Fl. Martav., & ~~Fl. Tas.~~  
N. Real. & Jasm.

1. Abrotanella emarginata, Cass. l.c.

Tab. Orange Harbour, Turgiea;

small specimens, resembling a tufted  
Moss, <sup>intermixed with</sup> ~~entangled among~~ those of the  
following species; and of Nassauvia pygmaea.

2. Abrotanella (Veratella) bryoides,  
Sp. Nov. (Tab. )

~~A. confertissima caespitosa, depressa;  
foliis erectis et basi erecta  
patentibus~~

(Sp. Nov. (Tab. )

2. Abrotanella (Ceratella) submarginata

A. pulvinatum.  
~~confertum~~ caespitosa; ~~depressa~~;  
foliis crebris linearibus e basi  
erecta patentibus sursum leviter  
callos-marginatis truncato-ob-  
tusis vel retusis; capitulis soli-  
tariis subsessilibus paucifloris;  
involucri squamis subuninerviis;  
achenii obsolete 3-4-nerviatis  
angulatisve inferne hirtellis  
apice pappo corniformi et  
pauciaristulato <sup>vel denticato</sup> superatis.

Tab. Grange Harbour, Fre-  
gia.

A dwarf, depressed, ~~tufted~~,  
glabrous little plant, in foliage  
and aspect nearly intermediate between  
the preceding and the succeeding



Plants (which certainly look  
very differently), ~~the~~ <sup>in</sup> general appear-  
ance very like Ceratella rotundata,  
Hook. f.; but the leaves smaller  
and narrower. These are about  
three lines long; the base scar-  
ious-margined and appressed; the  
upper half squarrose-spreading,  
short-linear, thickish, somewhat  
obscurely cartilaginous-margined,  
obtuse, truncate, or barely retuse  
at the tip. Head and flowers  
nearly as in A. emarginata;  
but the achenia are somewhat  
hairy, especially below, and crow-  
ned with a rather conspicuous  
~~thin~~ and pappus, consisting of  
a thin scarious coronula, which  
is irregularly toothed or more com-  
monly extended into 2 to 4 setiform  
arcs, their length equal to the

breadth of the achenium. The pappus is about the same in both kind of flowers, but the central or subhermaphrodite ones are apparently infertile.

~~A reduced~~ Nothing is less reliable, at least generically, than <sup>distinctions</sup> ~~characters~~ founded upon the presence of a paleaceous, coroniform, or other reduced form of pappus, and its absence. Unless genera are to become completely artificial and almost innumerable, it would appear ~~from~~ that this and the following species <sup>call for</sup> ~~demand~~ the reduction of Dr. Hooker's Ceratella, Trineuron, and therefore Sclero-  
leima, to Horanella, - a conclusion for which the founder is evidently prepared.

Plate

linearifolia, sp. nov. (Tab.)

3. Abrutella (Ceratella) ~~monticola~~.

A. laxe caespitosa; foliis linearibus seu linearisubspathulatis immarginatis patulis, superis capitulum pedunculatum adquantibus; involueri 2 quavis valibus sub 2-3-nervatis; floribus femineis 2-3, hermaphroditis 6-8 stylo fil. m. bipido, omnibus sepiissime fertilibus; acheniiis glaberrimis elongato-obovatis apice costis 4-costatis apice subcontractis proppro obscure cupulato sub 4-dentato truncato nunc sub 4-dentato nunc plane 4-areolulato superatis.

Tab. Orange Harbour, Luigia.



This little plant, with the  
aspect and foliage of <sup>*A. spathulata*</sup> Dr. Hooker's  
although upon a somewhat smaller scale,  
*Trineuron spathulatum*, has the  
floral characters of *A. (Ceratella)*  
*rosulata*; - except that the ~~disk~~ <sup>receptacle</sup>  
~~flowers appear~~ are stamini-ferous  
flowers are truly hermaphrodite,  
their stigmas more or less bifid,  
and apparently as fertile the one  
or two marginal ones, which  
have a more slender corolla and  
only vestiges of stamens. The  
~~achenes~~ corollas all have the same  
purple or crimson hue; the are  
exserted beyond the involucre, which  
barely equals the full-grown achenia.  
The latter, in our specimens have the pappus represented  
by a short cupule which is re-  
spandly or obscurely four-toothed (therefore intermediate between Hooker's

Ceratella and his Scleroleima,  
but the summit of the achenium  
under it contracted into somewhat  
of a neck): but the flowering  
specimens exhibit four decided,  
rather unequal, subulate arms  
in place of the obscure teeth, i.e.,  
~~corresponding with~~ <sup>answering to</sup> the  
~~ribs or angles~~ or rather ribs  
of the achenium, in length  
mostly exceeding the width of the  
ovary: - the central and the mar-  
ginal flowers all alike in this  
respect. Leaves rather fleshy,  
crowded on the short stem, but  
lax, obtuse, nearly half an  
inch long, a line or less in  
width, wholly destitute of ~~a~~  
callous margins. Peduncle when  
well developed 2 or 3 lines long.

Involucre rather more than a line  
long; the scales oval, very obtuse,

furnished with scarious margins,  
and two thickened nerves, the mid-  
~~nerve~~ nerve between them obscure.

Plate



Centipeda, Lour.

1. Centipeda minuta.

Cratula minuta, Forst. Prodr. p. 57;  
Müll. Spec. 3. p. 2163.

C. cuneifolia, Müll. l.c.

Atemisia minima, Linn. Spec. 2. p.  
1190; Burm. Fl. Ind. p. 177, t. 58.

Centipeda orbicularis, Lour. Fl.  
boch. 2, p. 602; Miq. Fl. Ind.  
~~Bot~~ Bat. 2, p. 89.

Myriogyne minuta (& M. elatino-  
oides), Less. in Linnaea, 6, p. 219;  
Dc. Prodr. 6, p. 139; Hook. f. Fl.  
N. Zcal. 1, p. 130, & Fl. Tasman. 1,  
p. 194.

Sphaeromorphaea? Centipeda, Dc.  
Prodr. 6, p. 140.

Stat. New Zealand, Heijze Islands,  
Society Islands.

2. Centipeda bunninghamii.

Myriogyna? bunninghamii, Db.  
Prodr. 6, p. 139.

Hab. New South Wales, on  
Hunter's River. Specimens of this  
and the next are in the collection  
~~labeled~~ ticketed as from the Bay of Islands,  
New Zealand; but I have reason to  
suppose that they were gathered in  
Australia.

3. Centipeda petiolaris.

Sphaeromophaea petiolaris, Db.  
Prodr. 6, p. 140.

Hab. With the preceding, and at  
Sydney.

Artemisia, Torr., Linn.

1. Artemisia australis, Less.

Var. a. Eschscholiana; foliis adultis  
subtus canescentibus supra  
glabratiss, lobis foliorum planis  
sepius parce incisiss.

Artemisia australis, Less. in  
Linnaea, 6, p. 522; Dc. Prodr. 6, p.  
106.

A. Eschscholiana, Bess. Abot.  
no. 7, ex Dc.

Var.  $\beta$ . Maiensis; foliis utrinque  
incanis, vetustissimis supra gla-  
brescentibus, partitionibus lobis-  
que plerumque filiformibus  
integerrimis.

Hab. Sandwich Islands, Var.  
a. Kaala Mountains, Oahu <sup>(also)</sup> collected  
by Chamisso, Seemann, &c.; and on  
Kauai, - a mere fragment.  $\beta$ . Eastern  
part of Maui, at the base of the  
crater.



specimens of  
The ordinary state of the species  
accord with those collected by Cham-  
isso. The variety might naturally  
be taken for a distinct species,  
the whole foliage, <sup>the filiform</sup> pedicels, &c. being  
as silvery-grey as in A. frigida,  
and the divisions of the leaves  
filiform; but the vestiges of leaves  
on some older branches show a  
manifest transition. Both forms  
are decidedly shrubs.

Calocephalus, R. Br. (gen. auct.)

Calocephalus & Leucophyta, R. Br.  
in Lin. Trans. 12. p. 106; Cass.;  
<sup>syn. p. 279</sup>  
Less.; Ob. Prodr. 6. p. 151, 152;  
Stork. f. Fl. Tasm. 1. p. 196.

1. Calocephalus citreus, Less.

Calocephalus citreus, Less. l.c.; A.  
Mourq. Bot. Voy. Voy. t. 60. p. 4;  
Ob. l.c.

Hab. Hunter's River, New South  
Wales.

DeCandolle to some extent con-  
founded this with Pycnosorus glo-  
bosus; at least, the <sup>specimen</sup> ~~plant~~ which  
he communicated to the Paris Museum  
under the present name is a Pycno-  
sorus.

The union of Brown's two genera  
now appears to be unavoidable. Dr.  
Storker, indeed, recently states that

Leucophyta "differs materially from Caloccephalus in the alternate leaves, in the glomeruli being subtended by short leaves, in the bractæ seated among the capitula, in the more numerous involueral scales, in the pedicelled achenia, and in the larger, more copious and plumose pappus." But the involueral scales in Caloccephalus lacteus are about as numerous as in C. (Leucophyta) Brownii, <sup>and</sup> the achenia of C. citreus are <sup>(as)</sup> much pedicellate, ~~as those~~; while C. Sonderi, F. Mueller, ined. has alternate leaves, of which the uppermost form a general involucre ~~for~~ to the glomerule, and the setæ or rather scales of the pappus plumose (although rather sparsely) for their whole length. All the species accord in habit and form a good natural genus.



# Pyrenosorus, Benth.

## 1. Pyrenosorus globosus, Benth.

Pyrenosorus globosus, Benth. Pl. Angl.  
el. p. 63, adn.; Sander in Linnaea,  
25, p. 491.  
Calocephalus citreus, Ab. in Herb. Mus. Par., vix Benth.

Stat. Hunter's River, New South Wales.

Distinguished from the preceding  
genus by the lamate receptacle,  
the few and thin involueral scales  
shorter than the stamens, and these  
accompanied by hyaline <sup>rather</sup> palea; the  
size of the pappus more numerous and <sup>equally</sup> plumose.  
I could detect no neutral flower,  
but often an infertile or less  
developed hermaphrodite one in the  
centre of each capitulum, and  
I therefore modified ~~the~~ Benthian's  
character in this respect, in Kew  
Jour. Bot. 3, p. 99. Dr. Sander has  
recently well characterized the genus  
~~anew~~ anew, and added a second  
species which is unknown to me. —

the achenia pilose.

and ~~the~~ one collected at Moreton Bay by  
by Mrs. Mallard,

The two specimens of the present collec-  
tion, differ from Mr. Benthams, and  
from all others examined, in having the  
bristles of the pappus & almost all  
the flowers concreted for one third or  
<sup>into a tube (which is setaceous pubescent)</sup>  
~~even~~ for half their length; - a char-  
acter which is not likely to be ~~con-~~  
~~stant~~. specific or constant. Benthams  
did not notice any such concretion  
in the specimens upon which he  
founded the genus. Under remarks  
that the setae are united at their  
base.

## Grasspedia, Forst.

### 1. Grasspedia Richea, Bass.

Hab. Sydney, New South Wales;  
a slender form.

Ammobium, R. Br.

1. Ammobium alatum, R. Br.

Hab. Near Sydney, New South  
Wales.

Cassinia, R. Br.

1. Cassinia rosmarinifolia, A. Cunn.  
2. Cassinia quinquefaria, R. Br.

Hab. Near Sydney, New South  
Wales.

Ozothamnus, R. Br.

1. Ozothamnus rosmarinifolius, DC.  
2. Ozothamnus ferrugineus, DC.



Hab. Near Sydney, and Woolan-  
gong, New South Wales.

3. Ozothamnus Nauvilliersii, Stomb. <sup>+ Jacquinot.</sup>

Ozothamnus Nauvilliersii, Stomb. &  
Jacquinot, Bot. Voy. Pd. Sud, t.  
5; Stork. f. Fl. Antarc. 1, p. 29.

Hab. Lord Auckland Islands;  
very common, Dr. Holmes.

Leptorhynchus, Less.

1. Leptorhynchus hemisphaericus, St.

Hab. Hunter's River, New South  
Wales.

Podolepis, Labill.

1. Podolepis acuminata, R. Br.

Hab. Hunter's River, New South Wales.

Helichrysum, Vaill., DC.

1. Helichrysum obconicum, DC. &
2. Helichrysum melanophthalmum, Less.

Hab. Madeira, on rocks, &c. along  
the Coast.

- & var. lingulatum, DC.)
3. Helichrysum vestitum, Less.

4. Helichrysum teretifolium, Less.

5. Helichrysum cymosum, Less.

6. Helichrysum parviflorum, DC.

7. Helichrysum serpyllifolium, Less.

8. Helichrysum fruticosum, Less.

Hab. Cape of Good Hope, in the  
vicinity of Cape Town.

9. Stelichrysum leucopodium, Lab.
10. Stelichrysum scorpioides, Labill.
11. Stelichrysum molle, A. Bunn., var.
12. Stelichrysum bracteatum, Willd.

Stat. New South Wales; all from Hunter's River, except St. leucopodium, which was gathered at Sydney, and which accords with the Tasmanian species. St. molle was collected only in a narrow-leaved variety; the species differs but little from St. scorpioides.

## Chrysocephalum, Walp.

1. Chrysocephalum apiculatum Steud.  
(+ Ch. flavissimum),  
Chrysocephalum apiculatum Steud.  
in Pl. Preiss. 1, p. 474, adn.; Sord.  
in Linnaea, 25, p. 516.  
Graphalium apiculatum, Labill. Pl.  
Nov. Holl. 2, p. 43, t. 188; Ker. Bot. Reg. 7.



Helichrysum apiculatum, D.C. Prodr.  
6, p. 195; Hook. f. Fl. Tasman. 2, p.  
212.

Stat. Near Sydney, New South  
Wales: a form with rather small  
heads and leaves.

2. Chryscephalum <sup>Steud.</sup> semipapposum

Chryscephalum helichrysoides, Walp.  
in Linnaea, 14, p. 503

C. helichrysoides, semipapposum, & aspe-  
rum, Steud. l.c.; Sund. l.c.

Graphalium semipapposum, Labill.  
l.c. t. 187.

Helichrysum semipapposum, D.C.  
l.c.; Hook. f. l.c.

Stat. Hunter's River, Moolungong,  
N.S. New South Wales; the vars. lati-  
folium, filifolium, &c. Also ~~an~~  
~~imperfect specimen of a~~ (var. as-  
perum), with somewhat glutinous leaves,  
&c. — The marginal female flowers usu-  
ally have a pappus of one or two setae,  
similar to those of the hermaphrodite, which are

from six to ten in number.

Helipterum, Db.

1. Helipterum (Sericophorum) <sup>Db.</sup> anthemoides, Db.

Helipterum anthemoides, Db. Prodr.  
6, p. 216; Hook. f. Fl. Tasman. 2, p. 215,  
t. 61; Gray in Kew Jour. Bot. 4, p. 231.

H. punctatum, Db. l.c.; Sand. in  
Linnaea, 25, p. 519.

Helichrysum anthemoides, Sieb.; Spreng.  
Syst. 3, p. 484.

Hab. Hunter's River, New South  
Wales. (The two Vandellian species  
rightly joined by Dr. Hooker.)

Achyrocline, <sup>(Lam.)</sup> Db.

1. Achyrocline satureioides, Db.

Hab. Rio Negro, North Patagonia,  
Rio Janeiro, Brazil, var. flaccida.

Lessing apparently with good reason referred Gnaphalium flaccidum to G. (Achyrocline) satureioides, Lam., and it seems evident that Schubert's A. satureioides, Var. flaccida, rufescens, and perhaps matthioloefolia, are merely forms of one species, which ranges from the northern borders of Patagonia to New Granada.

2. Achyrocline Nanthieriana. DC.

Hab. Rio Janeiro, Brazil. (Distinguished by the narrowly decurrent leaves.)



1. Gnaphalium, Lin.

1. Gnaphalium lutes-album, Lin.

Hab. Madeira; the common and a low, diffuse form. St. Helena. Sydney, New South Wales. Bay of Islands, New Zealand. Peru, at ~~Lima~~, Callao, Lima, and Obrajillo. Chili, in the vicinity of Valparaiso (G. Vira-vira, Mol., DC.). Sandwich Islands, on Oahu, Maui,

Kanai, and Hawaii: this, the G. Sand-  
wicensium of Gandichand<sup>here</sup>, occurs under a variety of forms, but all are, I believe referable to G. lutes-album. It ascends the mountains up to the region of Edwardia.

2. Gnaphalium cheiranthifolium, Lin.

Hab. Rio Negro, North Patagonia.

3. Gnaphalium paniculatum, Colla.

Chili, in the vicinity of Valparaiso. To this species may be ~~referred~~ referred G. citrinum, Hook. & Arn., and G. Candelabrum of the gardens, and perhaps G. puberulum, DC.

4. Gnaphalium Gaudichaudianum, Db.

Stat. Rio Janeiro, Brazil. (The Gnaphalium decursum of Schrank's Pl. Rar. Hort. Muae. t. 84, doubtfully referred here by De Candolle, and also to this G. puberulum, is manifestly a Pterocaulon, judging from the original drawing, in my possession.)

5. Gnaphalium lanuginosum, HBK.

Stat. Andes of Peru, from Obrajillo to Baños, Cuzco, &c. Probably G. Dombeyanum, Db. occurs under a variety of forms, some of the smaller approaching the following.

b. Gnaphalium Polium, Wedd.

Gnaphalium Polium, Wedd. Chl. And.  
1, p. 147.

Stat. Alparmarca and Casa Blanca,

in the high Andes of Peru.

7. Gnaphalium lacteum, <sup>& Walp.</sup> Meyen

Gnaphalium lacteum, Meyen &  
Walp. Rel. Meyen, p. 276; Wedd.  
l.c. p. 146, t. 24.

Hab. High Andes of Peru at Al-  
pamarca, Casa Grande, B.

One specimen only shows the  
milk-white scales of the involucre to  
which this little species ~~of~~ owes its  
name; in all the others they have  
turned fuscous. The plant forms  
depressed tufts only an inch or  
two in height.

8. Gnaphalium cymatioides, Kunze.

Hab. Chili, near Valparaiso. Also  
(~~except~~ unless the tickets have been mis-  
applied) Rio Negro, North Patagonia.



cratum, Forst.  
9. Gnaphalium (Euchiton) involu-

Hab. New South Wales near Sydney.  
Bay of Islands, New Zealand. —

In this species most of the species  
of De Boudollé's section Euchiton may  
be referred, and also Thunberg's G.  
Japonicum.

10. Gnaphalium (Euchiton) collinum, <sup>Labill.</sup>

Gnaphalium collinum, Labill. Fl. N.  
Holl. 2, p. 44, t. 189; Hook. f. Fl. N.  
Zeal. 1, p. 139, & Fl. Tasman. 1, p. 216, &  
2, p. 368.

Hab. Bay of Islands, New Zealand.  
A single specimen <sup>was</sup> collected; doubtless  
of this species, which, however, <sup>is probably</sup> ~~may be~~  
only a variety of the preceding. But  
the involueral leaves are inconspicuous,  
and the plant connects ~~this sect~~  
the involucrate section with the Gamo-  
chete.

pureum, Lin.  
11. Gnaphalium (Gamocheta) pur-

Gnaphalium purpureum (Lin.),  
spicatum (Lam.), falcatum (Lam.),  
stachydifolium (Lam.), Americanum  
(Mill.), Pennsylvanicum (Willd.),  
spæculatum (St. B. K.), consanguin-  
eum (Gaud.), affine (D'Urville),  
Chamissonis, Berterianum, fil-  
agineum, floccosum, <sup>etc.</sup> St. B.  
Prodr. b. p. 232-235.

Gamocheta Americana, Wedd.  
Chlor. And. 1. p. 154, 229.

Itab. Rio Janeiro, and in the  
Organ Mountains, Brazil, the G.  
spicatum, Lam. Rio Negro, North  
Patagonia, referable to G. falcatum,  
Lam. Obrajillo, Andes of Peru, the  
G. spmaculatum, St. B. K. Valparaiso,  
a very depauperate G. Berterianum, St. B.

Rio Negro, North Patagonia and  
Orange Harbor, Fuegia, the re-  
duced, Antarctic variety, G. con-  
sanguineum, Gand., Gamocheta  
Americana, var. alpina, Meddell.

These diverse forms belong,  
as we are constrained to believe,  
to one polymorphous species,  
which ranges from lat.  $43^{\circ}$  on  
the eastern coast of North America  
and from <sup>(Oregon)</sup> ~~California~~ on the west-  
ern coast, to the southern ex-  
tremity of the continent in a  
considerably higher latitude.  
The Fuegian forms are lax and  
flocculent, like the most nor-  
therly ones, but are still more  
reduced in size, the smaller  
less than a span high. Without  
a series of intermediate forms the  
reduced, Antarctic varieties would



to the fully developed and typical  
subtropical type of the species,  
represented by G. spicatum. In  
the United States the Linnean G.  
purpureum manifestly ~~passes~~  
~~into~~ effects this transition, and  
I think with <sup>Dr.</sup> Storker and Wed-  
dell, that the extreme southern  
forms are not specifically different.  
Nor can I well distinguish from  
G. purpureum of the Northern Uni-  
ted States a plant which Mr.  
Charles Wright, in the North Pa-  
cific Exploring Expedition, collected  
at Hong Kong, and the same thing  
was gathered by Dr. Thomson, on  
the plains of Upper India, and ~~was~~  
distributed as a variety of G. Indi-  
cum. The latter species has the  
bristles of the pappus distinct  
to the base.

Weddell's genus Garnochaeta,

established for this group, upon the  
union of the bristles of the pappus at  
the base into a ring, should  
probably be adopted; but the  
species so ~~nearly~~ closely approach  
G. indicum, &c. on the one hand,  
and G. involucratum and its  
allies on the other, while the  
sole technical character seems  
almost valueless in Helichrysum,  
&c. That the way to its adop-  
tion is not yet clear.

Lucilia, Cass.

Lucilia, Cass. Bull. Philom. 1817;

Ob. Prodr. 7, p. 45, ~~Remy in~~ <sup>(excl. 83)</sup>

Lucilia, Belloe (Remy), & Merope <sup>excl. 83</sup>

Wedd. Chlor. And. 1, p. 154, 159,

160.

Lucilia.

The genus Lucilia, correctly  
reunited to the Gnaphalieae by  
Remy (in Ann. Sci. 3, 12, p. 180), is  
rightly described as to the pappus  
by Weddell. Belloa seems too  
slightly distinguished by the papp-  
illose instead of silky achenia,  
and Merope, by the <sup>at length</sup> spreading, instead  
connivent scales of the involucre.  
In some they appear neither  
to spread nor to connive.

Nuttall's Gnaphalium depressum  
[reverse of the leaf]



sum, described from Pichincha  
specimens of Prof. Jameson's collec-  
tion (no. 642 and 57) is not the  
G. radians, Kunth, the L. (Munz)  
Kunthiana, but apparently L.  
conoides of Weddell, or near it,  
though larger.

1. Lucilia graphalioides, Less.

Lucilia graphalioides, Less. in  
Linnaea, 5, p. 363; Db. l. c.

L. argentea, Stork. & Arn. Comp.  
Bot. Mag. 1, p. 102; Db. l. c.

Stat. Rio Negro, North Patagonia.

This is certainly Storker and Arnott's L. argentea (which, by a typographical error, in DeBaudville's Prodronus said to be three- (instead of thirty-) flowered; but the earlier L. graphalioides is evidently founded on a depauperate form of the same species.

2. Lucilia (Merope) pipistolepis, Medd.

Lucilia pipistolepis, Medd. Chlon. And.  
<sup>1, f. 26, B.</sup>  
Merope pipistolepis, Medd. l. c. p. 162.

Stat. High Andes of Peru,  
between Culmá and Casa Ban-  
cha.

The specimens are more tufted  
and the sterile shoots apparently  
more caulescent than ~~appears to~~  
Noddell's plant (also from the  
Peruvian Andes) appears to be,  
the sterile shoots leafy throughout;  
the leaves squarrose-spreading,  
somewhat as in L. recurva, about  
two lines long, val-ovate. ~~Head~~  
Heads solitary, nearly 3 lines long;  
the scales chestnut-color, conni-  
vent in front, at length recurved.  
Achenia densely papillöse.

3. Lucilia (Merops) Schultzii,

Gnaphalium evacoides, Schultz,

Bip. in Boisslandia, 1856, p.

<sup>54</sup>Merops Schultzii, Nodd. Chlor. And.



1, p. 163.

Hab. Andes of Peru, with the preceding species.

A minute, depressed species, with the habit of Silene acaulis; the leaves of the sterile shoots sometimes two lines long, including the base, the limb nearly plane; those of the ~~fertile~~ densely tufted fertile stems densely imbricated, half a line long, channelled or partly complicated in the dried specimens. Heads 2 or 2½ lines long. Achenia glabrous.

4. Lucilia (Mexope) Pickeringii, <sup>Mr.</sup> Sp. f.

L. cano-tomentosa, multiceps, de-  
pressa; caulibus confertis uncialibus

foliatis; foliis spatulatis  
seu obovatis obtusis planis  
dense undique lanuginosis;  
capitulis subsolitariis sessili-  
bis cylindraceis; involucri-  
squamis <sup>interioribus</sup> linearibus obtusi-  
usculis radiis discum ~~aequa~~  
aequantibus; acheniis minu-  
tum papillosis.

Var. ?  $\beta$ . minor, condensata,  
pube appressa; capitulis  
minoribus aggregatis.

Hab. Andes of Peru, between  
Baños and Alparama. Var.  $\beta$ .  
Between Casa Blanca and Cul-  
maí.

Stems an inch or two in  
height, numerous and tufted from  
a perpendicular root, leafy through-

out; the leaves much crowded  
around the sessile head, spat-  
ulate-obovate, from a third to  
half an inch long including  
the narrowed base, soft, densely  
clothed with lax white wool.  
Heads 3 times long, half im-  
mersed in the tuft of leaves.  
Exterior scales of the cylindraceous  
involucre oblong and woolly; the  
others linear, glabrous, dark chest-  
nut-brown, scarcely exceeding  
the capillary pappus, conniving  
after fructification, at length spread-  
ing? Achenea minutely glandu-  
lar. — The doubtful variety is  
more condensed and caespitose,  
smaller, with a closer or appres-  
sed tomentum; the heads more  
numerous and smaller<sup>ly</sup>; but there  
is an intermediate form.



Antennaria, Gartn.; Nees.

§. Mniodes, — Planta andicola,  
densissime pulvinato-cespitosa,  
musciiformes, cinereo-tomentosa;  
foliis obovatis squamiformibus  
creberrimis arcte imbricatis; capitulis <sup>(solitariis)</sup> in apice  
ramulorum inter folia sessilibus  
ferè absconditis; divica.

A. Antennaria (Mniodes) andina, Sp. nov.

A. foliis lingulato-subcuneatis  
ferè truncatis vel retusis utrinque  
pilis longis crebris villosocristis;  
involveri squamis linearibus obtusis; achenis  
glabris; pappi setis

fl. masc. apice subit o  
~~capitato-incrassatis~~ valde  
~~clavato-incrassatis~~,

Stat. Alparama, on the  
high Andes of Peru. (Also collected  
by Standke; <sup>Pide</sup> sp. ~~et~~ a Schult. Bip. comm.)

Plant forming dense and  
cushion-like perennial tufts,  
in the manner of Diapensia or  
of Leucobryum; the stems only  
about an inch high, branching;  
the branches compactly appressed  
~~exposing~~ exposing only their <sup>apparently truncate</sup> sum=  
mits, thickly clothed with the  
very densely imbricated leaves, or  
below with their decaying vestiges,  
hoary, the tips of the dorsal  
side of the individual leaves, be=  
coming somewhat glabrate, only  
~~visi~~ distinguishable <sup>(under</sup> with a lens.  
Leaves from  $1\frac{1}{2}$  to 2 lines long,  
scale-like, ~~with rather~~ scarious,

but gradually becoming obscurely  
~~toward the base~~, but (herbaceous  
at the truncate<sup>or</sup> very obtusely  
rounded, sometimes retuse, sum-  
mit, from which it gradually  
narrows downward to the broad-  
ish base, very entire, obscurely  
one-nerved, closely appressed,  
both faces thickly clothed with  
long and straight villous  
hairs, which are easily de-  
tached. Heads 2 lines long,  
cylindrical, terminal, solitary,  
immersed in, or the summit  
a little projecting beyond the  
compact mass of foliage, di-  
oecious; those of each sex about  
12-flowered. Exterior scales of  
the involucre or ultimate leaves,  
(more properly the latter) resem-  
bling the proper leaves but  
narrower and more scarious,  
truncate, the others, or true



involucral scales ~~few~~, a  
single series, rather broadly  
linear, obtuse, not narrow-  
ed toward the base, glabrous,  
thinly scarious or hyaline, the  
tips fuscous, as long as the  
disk, not radiant. Flowers  
as in Antennaria. Ovaries and  
achenia glabrous. Bristles of  
the pappus conereted into a  
ring <sup>at the base</sup> and somewhat polyadel-  
phous; those of the male flow-  
ers rather scanty, obscurely  
denticulate under a lens, very  
strongly and abruptly thickened, or  
clavately capitate, at the apex;  
those of the female flowers  
more copious, more evidently poly-  
adelphously aggregated, rather  
rigid, capillary, denticulate.  
(Unioles)

A. arctioides (Baccharis arcti-

tioides, Schultze Bip., Mertse are=  
tioides, Wedd., Chlor. And. 1. p. 154,  
t. 25), which I know only  
from Weddell's description and  
figure, <sup>and from a fragment of Seebert's plant sent to me by Dr. Schultze.</sup> is evidently a near  
relative of our plant, inhabit-  
ing the high Peruvian Andes  
a little further south. But  
this appears to have more ob-  
ovate, ~~and~~ less truncate, and much  
less villous leaves, a slightly  
different involucre, papillose  
sterile avaria (the fertile plant  
unknown), and the <sup>bristles of the</sup> male pappus  
very gradually and moderately  
thickened upward. The habit is  
so peculiar that I had <sup>long ago</sup> designated  
our plant as the type of a genus;  
but the flowers accord with Anten-  
maria.

Chevrenlia, Cass.

1. Chevrenlia acuminata, Less.

Chevrenlia acuminata, Less. in Linnaea, 5, p. 261; Ob. Prodr. 7, p. 45.

C. filiformis, Stork. & Arn. Comp.

Bot. Mag. 1, p. 102, forma capitulos sessili.

Leucopodium campestre, Garden.

in Stork. Land. Jour. Bot. 4, p. 124.

Itab. Brazil, in the Organ Mountains, (Peduncle sometimes very short, commonly elongated.)

Metalasia, R. Br.

1. Metalasia aristata, Ob.

2. Metalasia divergens, Don.

3. Metalasia capitata, Less.?



Stat. Cape of Good Hope, in the vicinity of Cape Town. - The heads of the last enumerated species ~~are~~ bear from five to ten flowers.

Elytropappus, Cass., Less.

1. Elytropappus Rhinocerotis, Less.

Stat. Cape of Good Hope near Cape Town. - "Rhinoceros-bush". Setae of the pappus sparsely plumose almost to the base.

Stoebe <sup>Linnaeus</sup> " ", Less.

1. Stoebe alopecuroides, Less.

Stat. Cape of Good Hope, in the vicinity of Cape Town.

Seriphium, Linn., Less.

1. Seriphium plumosum, Linn.

2. Seriphium fuscum, Linn.

Hab. Cape of Good Hope, near Cape Town. The latter species with the glomerules mostly elongated into oblong spikes, and the foliage less caescent.

Perotriche, Cass.

1. Perotriche tortilis, Cass.

Hab. Cape of Good Hope, in the vicinity of Cape Town.

Trichogyne, Less., Hendl.

1. Trichogyne laricifolia, Less.

Stat. Cape of Good Hope, near  
Cape Town.

Neither Lessing nor Sebandtke  
mentions the character which  
doubtless suggested the <sup>generic</sup> ~~specific~~  
name, viz., that the fertile achen-  
ium is beset with very long and  
lax, woolly hairs. The pappus of  
the sterile flowers consists of four  
or five bristles, which are lamellate-  
penicillate above; the sterile ova-  
ries also bear a few long and del-  
icate hairs.

Leyssera, Linn.

1. Leyssera tenella, St.

Stat. Cape of Good Hope, in the  
vicinity of Cape Town: the var.  
subcanescens.



Erechtites, Raf., Db.

1. Erechtites microcarpifolia, Raf.

Hab. Brazil, at Rio Janeiro.  
Distributed over the American Continent from Canada to Paraguay.

2. Erechtites valerianaeifolia, Db.

Hab. With the preceding; from which it is distinguished by the slender petioles, smaller heads, and violet-purple pappus.

3. Erechtites arguta, Db.

Senecio argutus, <sup>A.</sup> Rich, ~~& Less.~~ Fl.  
N. Del. p. 258

Erechtites arguta, Db. Prodr. 6, p.  
296; Hook. f. Fl. N. Del. 1, p. 142,  
& Fl. Tasman. 1, p. 219.

Hab. Lord Auckland Islands,

Var.  $\beta$ , glaberrima: undique  
glabra et laevis; foliis caulinis  
sinuato-pinnatifidis, ramiculis  
parce dentatis.

Erechtites prenanthoides, Stock. f.  
Fl. Antarc. 2. p. 544.

Var.  $\gamma$ , glabrata (Stock. f.): undique  
glabra; foliis sinuato-pinn-  
atifidis asperulis.

Erechtites arguta, var. glabrata,  
Stock. f. Fl. Tasman. 1. p. 219.

Var.  $\delta$ , hispidula: subarenosa, vel  
pilis crispulis cinerea, vel  
nuda, caulibus praesertim foliis  
hispidulis vel asperatis. — Ludw.  
foliis linearibus, lanceolatis, vel  
oblongis, denticulatis, incis, vel pin-  
natifidis lobis incis.

Senecio hispidulus, A. Rich. ~~& Less.~~  
l. c. & Det. Astral. p. 92, t. 34.

S. squarrosus, Rich. Sut. Astrol.

p. 108?  
S. asper <sup>(+ S. glandulosa?)</sup> A. Cunn. ined.

Erechtites hispidula, glandulosa?

+ Richardiana, Db. l. c.

E. hispidula & E. arguta var.  
aspera, Hook. f. l. c.

Var. γ. tenuisecta: glabra, lævis,  
nisi foliis sub lente minutis-  
sime scabellis plerisque bi-  
pinnatifidis, lobis angustis-  
sime linearibus

Hab. Var. β. Lord Auckland  
Islands. N. Sydney, New South  
Wales. <sup>Bay of Islands, New Zealand,</sup>  
Hunter's River, New South  
Wales, a form with narrow and  
denticulate leaves (E. glandulosa, Db.?)  
another with pinnately parted and  
incised leaves, E. Sydney, New  
South Wales.



All the above, with E. pre-  
nanthoides, smaragdoides & glabres-  
cens, DC., and perhaps others,  
must be regarded as forms of one  
very polymorphous species. The  
dilatation of the apical border  
of the achenium, bearing the  
pappus, cannot be relied upon  
to distinguish sections in the genus,  
as attempted by DeCandolle, nor  
for the discrimination of species  
as endeavored by Dr Hooker. As to  
the foliage, nothing can be more  
variable. Our var. tennisecta  
would ~~have~~ prefer the strongest  
claim in this respect; but  
it is connected with the others ~~the~~  
through a remarkably pinnati-  
fid and rough form, intermediate  
between E. hispidula and E. arguta.  
Many of these plants are ascirose  
when young, but soon very glabrous,

as is common in Senecio. Dr. Hooker characterises his E. pum-  
anthoides,<sup>DB.</sup> as perfectly smooth  
and glabrous; but DeCandolle  
writes "caule glabriusculo" and  
"foliis subtus asperosis", which ac-  
cords with some Australian speci-  
mens. The New Zealand speci-  
mens I have seen belong to E.  
sonchoides (Senecio flaccidus, A.  
Rich.), probably only another state  
of the species.

Hook. f. l. c.

5. Erechtites quadridentata, DB.

Senecio quadridentatus, Labill.  
Fl. N. Holl. 2, p. 48, t. 194.

Erechtites quadridentata V. E.

tenuiflora, DB. Prodr. 6, p. 295,  
296.

Stat. Hunter's River, New  
South Wales. (E. tenuiflora is only  
a glabrate form.)

1

Gynura, Cass.

1. Gynura sarmentosa, DC.

Hab. Luzon, in the Majajai Mountains near Manila.

Emilia, Cass.

1. Emilia sorchifolia, DC.

Hab. Luzon, in the mountains near Baños.

Werneria, St. B. K.

An interesting and now somewhat polymorphous Andine genus, like its analogue Senecio either radiate or discoid, the rays either yellow, white, or rose-color; the branches of



2  
The style either truncate, or, in a few species, tipped with a setiform appendage. In one remarkable species the receptacle is alveolate, in <sup>one or two</sup> ~~several~~ the leaves of the branches, or some of them, are opposite. In several species there are five abnormal nerves to the corolla, occupying the axis of the lobes, as in DeCandolle's Mesogramma, but this is of little consequence or constancy.

3  
1. Werneria nubigena, St. B. K.,  
Wern. nubigena, St. B. K.

Werneria nubigena, St. B. K.

M. Gen. & Spec. 4, p. 193;

Mod. Schlor. And. 1, p. 80, t. 16  
excl. var. S.?

W. nubigena, disticha, & gram-  
iniolia, St. B. K. l. c.

(or busa Bancka, in the  
Stat. Alpamarca, } High Andes  
of Peru.

The specimens belong to a  
small form of the species, nearly  
Kunth's W. graminifolia, but with  
(just as in Modell's figure)  
hardly any rhizoma, the leaves  
1½ to 2 lines wide. Sappous (as figu-  
red by Kunth) a little more strongly  
denticulate than in the W. dis-  
ticha. Ovaries silky-villous, as  
in the species; in this respect the  
plant <sup>differs</sup> ~~varies~~ from Kunth's descrip-

4

tion of M. graminifolia <sup>(in 4)</sup> which a  
glabrous ovary is figured and  
described. It is ~~not~~ so in Red-  
dell's figure of M. rubigera,  
who does not allude to this char-  
acter in the text under any spe-  
cies. Although the achenia are  
not villous in the genus generally,  
as DeCandolle supposed, they  
<sup>(very much)</sup> are so in the present species,  
at least in M. disticha, ~~the~~  
its most developed form. In  
all the rest, so far as I have  
<sup>(excepting one apendicular new species)</sup>  
examined, they are glabrous. - The  
lobes of the Disk-colla occasion-  
ally exhibit a mid-nerve, of which  
there is no trace in other flowers.  
This is so in most of the species,  
<sup>misprinted M. frigida by DeCandolle,</sup>  
M. rigida, M. B. K. <sup>is</sup>  
clearly the larger form of M.  
primula, M. B. K.



5

L.C.

2. Werneria Obignyana, Wedd.

Var. breviradiata: involucri laciniis 10-14 ligulas breves  
<sup>foliis separatis integerrimis.</sup>  
aequantibus; (Tab. 4.)

Werneria nuda, Gray, ined.  
W. nubigena, var. canescens, Heiöscapa,  
Wedd. Chlor. And. 1, p. 81?

Tab. High Andes of Peru,  
near Casa Barcha. Peruvian  
Andes, McLean, in Herb. Hook.

Whole plant glabrous, no  
wool whatever on the rhizoma  
(which is creeping and elongated)  
nor on the bases of the leaves.  
The latter, although numerous  
and clustered at the base of the  
scape or flowering stem, do not  
form <sup>a</sup> rosette. These leaves are  
in our specimens about two in-

ches long and entire, in a larger  
 one collected by McLean 3 inches  
 long, including the long atten-  
 uated base or petiole, and most  
 of them more or less decidedly  
 three-toothed at the obtuse apex;  
 in all they are narrowly spat-  
 ulate in form, of a thick and  
 rigid texture, and of a dark hue,  
 apparently they were fleshy - cori-  
 aceous in the living plant, their  
 margins, particularly ~~towards the~~  
 below the middle ciliated with  
<sup>minute</sup> ~~small~~ salient denticulations. The  
 scape, also, is mostly shorter than  
 the leaves, 6 to 12 lines long, or  
 in McLean plant 2 inches long,  
 bearing a few leaves, the upper-  
 most reduced to linear bracts, In-  
 volucre campanulate or some-  
 what turbinate, of the same firm  
 texture as the leaves, the lanceolate

divisions as long as or longer  
than the tube and very slightly  
scarious on the margins. All  
these characters plainly point  
to Weddell's M. Orbignyana,  
which was collected on the moun-  
tains of La Paz in Bolivia. But  
our plant differs from the char-  
acter of that species, <sup>most</sup> probably  
not specifically, in its mostly  
smaller heads, the involucre  
reduced (from about 20) to 14 or  
even to 10 lobes, and in the  
shorter ~~scarious~~ rays, which  
seldom surpass the involucreal  
divisions. Their color is uncer-  
tain, probably not yellow. Re-  
ceptacle convex, obscurely alveolate.  
~~Achen~~ Corolla of the disk-flowers  
commonly 10-nerved, the interca-  
lated or false nerves extending from



8  
The tips of the lobes <sup>(from</sup> to the  
insertion of the stamens. Branches  
of the style truncate, minutely  
nail at the extremity, otherwise  
naked. Achene short-oblong,  
glabrous. Pappus shorter than  
the disk corolla, minutely den-  
tulate.

Plate A. Werneria  
Reddelliana Obliquyana,  
var. breviradiata; natural size. Fig. 1.  
A ray flower, 2. Corolla, and stamens, and  
style of a disk flower; the former laid open.  
The details magnified.

3. Werneria villosa, sp. nov. (Tab. 1)

W. rhizomate repente; caule  
florifero gracili simplici  
usque ad capitulum parce  
folioso villosa-lanato; foliis  
angustissime linearibus pri-  
mum villosis, mox glabris,  
summis <sup>brevibus</sup> filiformibus capita-  
lum bracteantibus seu involu-  
crantibus, radicalibus obtusis  
deorsum <sup>longe</sup> attenuatis, basi dila-  
tata <sup>scariosa</sup> intus fulvo-crinita; in-  
volucri 12-15-fido, lobis lineari-  
lanceolatis margine scariosis;  
ligulis exsertis; styli ramis ~~tran-~~  
~~catis~~ apice truncato penicilla-  
to-hispidis; achenio glabro.

Tab. High Andes of Peru  
near Alparmarca.

Rhizoma horizontal and more or less creeping, rather slender, clothed with the decaying vestiges of the bases of leaves and their hairs, their extremity crowned with tuft of erect leaves, and extended into a <sup>slender</sup> flowering stem of two or three inches in length. The stem, young leaves, and inflorescence are clothed with lax and somewhat villous woolly hairs. Radical leaves one to  $2\frac{1}{2}$  inches long, a line wide towards the obtuse summit, ~~thence~~ tapering downwards so as to become nearly filiform, then dilated into a scarious base or sheath, which is crinite with long and straight fulvous hairs (instead of implexed wool); the rather scattered cauline leaves linear-filiform,



(or subulate, (bract-like and  
several of the uppermost) crowded  
around the base of the head,  
rather shorter than the involu-  
cre. Cup of the involucre some-  
what turbinate, 3 lines long, the  
divisions 3 or 4 lines long, linear-  
lanceolate, with broad <sup>brownish or whitish,</sup> scarious  
margins. Rays numerous, linear,  
(of uncertain color,) considerably  
longer than the involucre.  
Disk-corrals usually 10-nerved  
in the upper part. Branches of  
the style in the perfect flowers  
linear, semicylindrical, glabrous  
except at the edges near the top,  
and at the broadly truncate sum-  
mit, here bearing a tuft of short  
hispid hairs. Achenia short-oblong,  
glabrous. Pappus white, denticulate,  
as long as the disk-corrals. Re-  
ceptacle flattish, obscurely alveo-  
late.

This should be compared with Nuttall's W. staticifolia, especially with the variety celmisioides (W. celmisioides, ~~Schult~~ Schultze, Bip.); but that, besides other differences, is said to have the branches of the style in the perfect flowers subulate, also papillose for their whole length.

Plate B. Neraria villosa; natural size. Fig. 1. Ray-flower. 2. Summit of its style. 3. A disk flower. 4. Its corolla, stamens, and style displayed. 5. Summit of ~~the~~ its style. The details variously magnified.

15  
4. Wermeria pygmaea, Gillies, ~~ex~~ ~~Hort. & Arn.~~

Wermeria pygmaea, Gillies, ~~ex~~ ~~Hort. & Arn.~~ in Jour.  
Bot. 3, p. 348; Wedd. Chêl. & Arn.  
1, p. 84.

W. Rhizoma, Kery in Gay, Fl.  
Chil. 4, p. 215, t. 47.

W. minima, Walp. Rel. Merzen.  
p. 27.

W. graminifolia, Benth. Pl. Hartw.  
p. 211, non HBK.

W. brachypappus, Cherlerioides, & apic-  
ulata, Schultze Bip. in Bonplan-  
dia, ~~1856~~ 4, p. 53, 55.

Stat. Andes of Chili, at the  
snow line, also of Peru near  
Casma Cancha.



5. Werneria caespitosa, Wedd.

Werneria caespitosa, Wedd., Chlor.  
And. 1. p. 83, t. 17.

Tab. High Rides of Peru  
 above Baños; in which region  
 it was long ago collected by Dom-  
 bey, but only just now pub-  
 lished by Weddell. From the  
 character of the foliage I had  
 named it W. acicularis.

Plate B. Werneria caespitosa. Fig. 1. A leaf  
 enlarged. 2. Head enlarged. 3. A seta of the puppus magnified.

6. Werneria carnosula, Sp. Av.

W. <sup>acaulis.</sup> caespitosa, parva, undique  
glabra; rhizomate crasso fere  
lignoso ramoso; foliis confer-  
tissimis linearibus vel spathu-  
latis brevis line integerimis

15  
obtusissimis carnosis capit-  
ulum sessile vix aquantibus;  
involucro 12-lobis, lobis tubo  
parum brevis apice cili-  
olatis, lineari-oblongis obtusis  
apice ciliolatis; ligulis nullis;  
achenis glabris; antheris luteis.

Hab. High Andes of Peru,  
near Casa Cancha.

Plant apparently forming dense  
tufts, only an inch high; the  
leaves clustered on the summits of  
the branches of thick rhizomata,  
which bear no root or hairs.  
<sup>thick, apparently</sup> Leaves fleshy, glabrous, about 4 lines  
long, those of sterile tufts spatulate,  
the blade about a line and a  
half wide, of the fertile tufts  
linear, very obtuse, not narrowed  
towards the base, the thin edges

of which are absolutely ciliate-denticulate. Head subsessile, 4 lines long. Involucre glabrous; the divisions rather shorter than the tube, of the same thick texture of the leaves. <sup>(5 or 6)</sup> The alternate exterior ones <sup>mostly</sup> broader than the inner ones, which are linear and with scarious margins, which the exterior ones scarcely exhibit. Ovaries glabrous. <sup>containing 10 nerves.</sup> Branches of the <sup>anthers yellow.</sup> style smooth, except the abruptly truncate and minutely ~~seri-~~ hispid summit. Ovaries glabrous.

In most respects this accords so nearly with Weddell's N. melanandra, from the Bolivian Andes. But in the scanty specimens the leaves are <sup>all</sup> quite entire, the involucre not cleft beyond the middle, <sup>and its</sup> ~~and the~~ lobes of ~~it~~ all very obtuse, and the anthers yellow, not dark-colored in the least.



Mr. (Tab.)

7: Mercuria strigosissima, Sp. n.

W. caespitosa; rhizomate <sup>ramoso</sup> crasso  
repente; foliis rosulatis brevibus  
spathulatis integerrimis  
capitulum sessile fulcrantibus  
cum involucrio 10-14-fido strig-  
osissimis; <sup>vaginae crispiferae</sup> ligulis <sup>crinitis</sup> exsertis;  
stylis ramis <sup>truncatis</sup> apice hispido-  
penicillatis et appendice seta-  
cea auctis; achenio pubes-  
cente; pappo rigidulo.

Hab. High Andes of Peru,  
near Basa Cancha, ~~or Alpa-~~  
~~marca~~

A depressed plant, rising  
barely an inch above the surface  
of the ground. ~~from the~~ Rhizoma  
thick, branching, creeping, some-

what ligernous; the older parts  
 clothed only with decayed vestiges  
 of the bases of former leaves  
 and with straight villous hairs.  
 Leaves crowded in a tuft around  
 the sessile head, which they  
 slightly exceed, spatulate; the  
 blade from 3 to 6 lines long, about  
 2 lines wide, obtuse, perfectly  
 entire, tapering gradually into  
 a short or sometimes elongated  
 petiole, both faces thickly clothed  
 with long and straight, flattish,  
 tapering, rigid bristles or rather  
strigae. These remarkable bris-  
 tles are a line or two in length,  
 sordid or fuscous, and themselves  
 denticulate under a lens, or <sup>the tissue of</sup> some  
 of the more ramulent ones ~~dile~~  
<sup>resolved</sup> ~~quiescing~~ above into slender hairs.  
 Involucre about 4 lines long,

(The dilated base of the leaves is beset with similar, but  
 more slender bristles or long villous hairs.)

campanulate, externally hispid  
with bristles like those of the leaves,  
but less stout, cleft about to  
the middle into 10 to 14 lan-  
ceolate lobes, their edges scarcely  
at all scarious. Receptacle  
naked? Rays exerted (their  
color not recorded), a narrow an-  
nulus ~~in~~ connects the linear-  
oblong ligule with the slender  
tube. Disk-corollas narrow, 5-  
nerved, the lobes short-linear.  
Branches of the style of the  
disk-flowers glabrous or nearly  
so except at the <sup>abruptly</sup> truncate  
summit, which is penicillate  
with short and rigid bristles and  
furnished with a setaceous ap-  
pendage or stiff pointed bristles,  
which is ~~often~~ sometimes decide-  
ous or perhaps obsolete. Achenia  
short, minutely silky-pubescent,



Pappus copious, ~~++~~ equalling and afterwards exceeding the corolla of the disk, composed of more rigid or <sup>stouter</sup> ~~coarser~~ bristles than ~~is~~ in other species.

A most remarkable species, apparently somewhat related to Weddell's W. glandulosa; to the peculiarity of the style we have an approximation in ~~the follow-~~  
~~ing species~~ W. the following species.

Plate A. Nereria strigosissima; natural size. Fig. 1. A leaf enlarged. 2. One of the branching hairs magnified. 3. Involucre laid open. 4. A ray-flower. 5. Summit of its style. 6. A disk-flower. 7. A disk-flower with full-grown achenium. 8. Summit of the style of a disk-flower. 9. Section of the achenium. The details variously magnified.

8. Werneria ciliolata, Sp. Av.

W. caespitosa, ramosissima, de-  
pressa, glaberrima; ramis <sup>brevibus</sup> con-  
fertissime foliosis; foliis ~~subcar-~~  
~~mosis~~ (saepe oppositis) linearis-  
bus subcomplicatis vel canalic-  
ulatis acutiusculis subcar-  
mosis sub lente spinuloso-cil-  
iolatis; capitulis sessilibus;  
involucri cylindraceo pluri-  
costato 8-<sup>9</sup>-fido, lobis trian-  
gulato-lanceolatis obtusis  
subscariosis, costa valida;  
ligulis paucis brevibus;  
stylis ramis truncatis apic-  
ulo brevi vel obsoleto; acheniis  
glabris.

Hab. High Andes of Peru,  
 with the preceding and succeeding  
 at Alparmarca.

Plant with the habit of the following, but with slenderer stems, <sup>or branches,</sup> apparently not so fleshy, and only an inch or two in length, the older ones naked and free from wool or hairiness, as is the whole plant. It probably forms matted tufts on the surface of the ground. The numerous and crowded branches are thickly clothed with leaves. These are many of them opposite with their <sup>more or less ciliate,</sup> scarious, but not vaginate. They are about half an inch long, and <sup>about</sup> ~~less than~~ a line wide at the base, slightly narrowing to the apex, thickish and apparently somewhat fleshy except <sup>near</sup> ~~at~~ the base, a strong midrib prominent beneath, the upper surface more or less channelled, the edges thin and sharp.



and ciliate with minute and  
 salient spinulose denticulations.  
 Heads <sup>terminating the branches,</sup> slightly exserted from among  
 the leaves. Involucre 4 lines  
 long cylindraceous-campanulate,  
 ribbed with about 24 ~~salient~~  
 salient nerves, of which those  
 which form the axis of the  
 lobes are the stronger, cleft  
 less than half way down into  
 8, <sup>or sometimes 9,</sup> broadly lanceolate, or somewhat  
 triangular, but obtuse, lobes;  
~~their~~ <sup>the</sup> which are thin and  
 somewhat scarious or petaloid  
 (yellowish?) except the axis or  
 strong midrib. Receptacle  
 flattish, naked. Ligules ap=  
 parently about 8, short, in the  
 scanty specimens not exceeding  
 the involucre. Disk-collars 5=  
 nerved. Branches of the style  
 (in the ray-flowers mostly simi=

lar to those of the disk) truncate and somewhat capitate at the summit, ~~where they are~~ which is minutely hairy, also pointed with a minute apiculation, which, however, is often obsolete. Achromia perfectly glabrous. Pappus soft, denticulate.

Plate

A. Mormonia ciliolata

natural size. Fig. 1. Upper ~~side~~ face of a leaf. 2. Lower face and section of the same. 3. The style. The details magnified.

9. Wernneria digitata, Wedd.

W. caespitosa, ramosissima, car-  
nosa; ramis adscendentibus  
superne confertissime foliosis  
glabris; foliis glabriusculis apice  
(limbo) cuneato-dilatatis trifidis,  
laciniis crassis conglomeratis lin-  
earibus oblongisve integris vel  
2-3-fidis 2-3-lobatis primum  
parce lanatis; capitulis sessil-  
ibus radiatis; involucro cam-  
panulato 13-20-fido, lobis line-  
ari-lanceolatis marginibus scari-  
osis; stylis ramis apice penicil-  
latis et appendice setacea saepe  
saepe auctis; acheniis glabris;  
receptaculo valde convexo nudo.

Wernneria digitata, Wedd. Chlor.  
Ind. N. p. 86, t. 17.



Stat. High Andes of Peru  
at Alpanarea.

A scanty specimen of this interesting species was collected, along with the following and the preceding. It appears to be Weddell's W. digitata, but with some minor discrepancies. The leaves bear some woolly hairs, their lobes are somewhat incrassated, though <sup>far</sup> less so than in the following species and are very blunt instead of acute. Some few of the leaves appear to be truly opposite. The involucre is ciliate or nerved as in W. ciliolata, but less conspicuously; the divisions in our specimens are fewer than in Weddell's, and are scarcely if at all longer

than the tube. The disk-corrals  
are 10-nerved. The branches of  
the style, as well in the ray  
as in the disk flowers, sometimes  
bear a <sup>conspicuous</sup> slender, setiform appen-  
dage (either naked or ~~with a few~~  
~~sparingly~~ ~~thence~~ setulose); some-  
times this is ~~was~~ obsolete or not  
distinguishable from the coarse ~~thence~~  
hairs of the truncate-obtuse sum-  
mit.

(ylla, Schultze, Bip.

10. Thermeria dactylophylla, (Tab.)

Th. dense caespitosa, ramosissima,  
carnosa; ramis adscendentibus  
fasciculatis; foliis in apice  
ramorum creberrime imbricatis  
<sup>supra</sup> ~~ex~~ lanatis mox glabratis  
parvis apice seu limbo  
cuneato-dilatatis trifidis,  
laciniis 2-3-<sup>valde dentatis,</sup> lobatis, lobulis  
valde incrassatis obtusissimis  
conglomeratis; capitulis semilibus  
radiatis; involucri campanulato  
10-15-fido, ~~lacini~~ lobis oblongis  
lanceolatisve margine scariosis,  
stylo praecedentis; <sup>valde costatis</sup> acheniis gla-  
bris; receptaculo planiusculo  
~~eximie~~ alveolato!

Thermeria dactylophylla,

Schultze, Bip. in Bomplandia  
 4, p. 53; Medd. ~~Chlor~~ Chlor. And. 1, p. 57.



-7-

Stat. High Andes of Peru at  
Alpamarca.

This extraordinary species was first detected by Donkey in the Peruvian Andes, doubtless in the district visited by the naturalists of this Expedition. Gay and Sechler have <sup>collected</sup> detected it farther south, and Pentland on Illimani in Bolivia. Like Dr. Schultz, I also <sup>was</sup> ~~was~~ disposed <sup>(long since)</sup> to view it as the type of a new genus (and to dedicate it to the rival geologist, the founder of the Plutonic theory), regarding it as ~~the~~ sustaining to Synoxys the relation which Mermeria does to Senecio. But <sup>(appearance of the)</sup> the style, as will be seen is inconstant and variable, and the alvolute receptacle is wanting in the nearly related W. digitata.

(Several of  
 In our specimens the receptacle  
 is not only profoundly alveolate,  
 but the alveolae are irregularly  
 extended, here and there among the  
 flowers, into scarious fimbriae,  
 some of them half the length of  
 the disk-flowers. But in a  
 head from one of Donkey's speci-  
 mens which I have been ena-  
 bled to examine, the receptacle  
 is only moderately alveolate.  
 Disk-collas <sup>either</sup> ~~only~~ 5-nerved <sup>10-nerved</sup> or  
 Achenia cylindraceous, strongly  
 costate with several salient ribs.

Plate B. Mermeria Dactylo-  
phylla: two forms. Fig 1. Upper face  
 of a leaf. 2. Summit of another leaf, with  
 the lobes more incurved. 3. Head. 4. Re-  
 ceptacle, deeply alveolate. 5. A Disk-co-  
 lla ~~expanded~~ laid open. 6. Style. 7, 8.  
~~Anther~~ Stamens. 9. Leaf of the lower form dis-  
 played. 11. Ray-flower, and 11, Disk-flower of the same.

12. Corolla and stamens of the latter displayed. 13.  
Style <sup>from</sup> the same. The details variously magnified.

Bulcitium, Humb. & Bonpl.

1. Bulcitium Magellanicum, Humb. & Jacquinot.

Bulcitium Magellanicum, Humb.  
& Jacquinot, Voy. Pole Sud, Bot.  
t. II, p. 10; Hook. f. Fl. Antarctic. 1,  
p. 312.

Senecio Magellanicus, Hook. & Arn.  
in Jour. Bot. 3, p. 343.

Hab. Orange Harbor, Fregia.

2. Bulcitium Staenkei, Wedd.

Bulcitium Staenkei, Wedd., Chlor.  
And. 1, p. 139.

Hab. High Andes of Peru, above



Baños, near Alparamarca, Ys. Also  
collected in Peru by Mr. McLean.

This well accords with the  
character given by Weddell. It  
differs from C. nivale in the as-  
signed particulars (except that the  
revolution of the margins of the  
leaves, or the want of it, affords  
no valid discrimination), also  
in a disposition to the branching  
of the flowering stems above,  
and its commonly bearing two or  
<sup>even in specimens only three or four inches high</sup>  
three heads. x C. nivale is not  
saxely dicephalous.

3. Culcitium longifolium, Turcz.

Culcitium longifolium, Turcz. in  
Bull. Soc. Nat. Mosc. 24, p. 206;  
Müll. Ann. Bot. 5, p. 296; Wedd.  
Senecio <sup>l.c.</sup> culcitiorides, Wedd. l.c. p. 163.

Var.  $\beta$ . tenue: foliis tenuioribus;  
scapo gracillimo subpedali  
bracteis paucis subulatis instruc-  
to 3-4-cephalo; capitulis mi-  
noribus.

Ital. High Andes of Peru  
near Casa Blanca. Var.  $\beta$ . above  
Baños.

The large specimen is the  
same as a plant of Prof. Jameson's  
collection, ~~apparently that~~ on  
which Turczaninow founded his  
C. longifolium. I cannot doubt  
it is likewise Weddell's Senecio  
culcitoides. Admittedly there is  
no ~~good~~ <sup>distinct</sup> line of demarcation be-  
tween the two genera; but this is  
surely a congener of C. rivale  
and <sup>in the involucre</sup> is as good a culcitum as  
is C. adscendens.

hardly more than  
The variety tenue is a much  
attenuated and depauperate form  
of the species; the leaves not rigid,  
the glabrate stem almost leafless  
and filiform; the heads <sup>rather</sup> ~~one third~~  
smaller.

4. bulcitiun humile, DC.

bulcitiun humile, DC. Prodr.  
b., p. 325.

Senecio Candollei, Wedd. Chel.  
And. 1, p. 166.

Stab. High Rides of  
Peru, at Alparamaca.

The leaves are sometimes quite  
entire and often spatulate or incli-  
ned to obovate. <sup>The scape varies from half an inch to three inches in length.</sup> The species cannot  
well be generically separated from the  
two preceding and their immediate  
relatives.



Senecio, Lin.

\* Patagonici et Fregeani.

1. Senecio subulatus, Don.

Senecio subulatus, Don ex  
Hook. & Arn. in Jour. Bot. 3, p.  
330.

Hab. Sand-hills of the Mouth of  
the Rio <sup>Agro</sup>~~Grande~~, North Patagonia;  
the varieties elativ and macrantha.

Stems shrubby at the base.  
Leaves fleshy, subulate-linear,  
pointed, mostly entire, sometimes  
trifid or sparingly pinnatifid. Heads  
pretty large; the ligules little ex-  
serted. Achenia minutely cinereous;  
the short hairs when moistened emit-  
ting a couple of spiral threads, as

in many other species, and then  
when dry appearing velvety or  
downy, — a point to be kept in mind  
in collating the descriptions of various  
Senecios. ~~S. leptolobus~~ HB. and  
~~S. pinnatus~~, Poir. (~~binaria~~ ~~Mega-~~  
~~planica~~, Spreng.) are probably states  
of this same species with more  
~~pinnate~~ leaves.

2. Senecio albicanlis, Hook. & Arn. l.c.

Ital. Rio Negro, North Patu-  
gonia, with the preceding.

3. Senecio Arnottii, Hook. f. <sup>dentatus.</sup> var. )

Senecio Arnottii, <sup>S. longipes,</sup> Hook. f. Fel.  
Antarct. 2, p. 314.

S. limbarioides, Hook. & Arn. Trans. Bot. 3, p. 347.

Ital. Orange Harbour, Truena.

This has narrowly linear-lanceolate leaves which are sharply 2-4-toothed <sup>ascending stems, and</sup> towards the summit, or some of them entire, pedicels an inch or two in length, and is intermediate between Dr. Hooker's *S. Arnottii* and *S. longipes*, which he rightly conjectured to be only varieties of the same ~~plant~~ species. The var. *longipes* was collected by Gunnison.

4. *Senecio leucomallus*, Sp. Nov.

*S. fruticosus*, ramosus, undique albo-lan<sup>osissimus</sup>~~atus~~; ramis 1-3-ceph-  
alis ad apicem usque foliosis;  
foliis spatulatis <sup>obtusis planis</sup> integerrimis  
(denudatis glabris aveniis); capit-  
ulis breviter pedunculatis; invo-  
lucro lanosissimo, bracteolis  
<sup>linearib.</sup> subulatis squamis propriis sub-



Aequantibus; ligulis nullis; acheniis glaberrimis.

~~Var.  $\beta$ .~~

Var.  $\beta$ . incisus; caulibus laxis,  
ascendentibus; foliis plerisque  
apice 3-5-lobatis vel inciso-denta-  
tatis.

Stat. Orange Harbour, Tasmania.

This is related to S. Patagonicus, Hook. & Arn. (of which S. Andersonii, Hook. f. and S. Dargausii, Hook. & Jacq. are forms), but is very densely <sup>and brightly</sup> white-woolly, has larger heads, short peduncles, obtuse and spatulate or somewhat cuneate leaves, &c. When the dense wool is detached, the leaf is left glabrous and veinless; when alive perhaps <sup>rather</sup> fleshy. ~~It may well be Strobilifer and diffusum~~

5. Senecio candidans, Db.

Senecio candidans, Db. Prodr. 6,  
p. 412; Stork. f. Fl. Martae. 2,  
p. 312.

Cacalia candidans, Vahl, Symb.  
3, p. 96, t. 71.

Stat. Good Success Bay and  
Orange Harbour, Tonga.

6. Senecio Smithii, Db.

Senecio Smithii, Db. Prodr. 6, p.  
412; Stork. f. l. c. p. 316.

S. verbascifolius, Stork. & Jacq.  
l. c. t. 12.

Cineraria gigantea, Smith, Ext.  
Bot. 2, p. 11, p. 65.

Chrysanthemum verbascifolium,  
Commers. in Stat. Mus.  
Par.

Itab. Orange Harbor and  
Good Success Bay, Zuegia.

This stately plant has much  
the aspect of the preceding, except  
that the leaves are mostly  
more oblong, and the rays are  
present. These are ochroleucous  
or almost white and commonly  
conspicuous, but in some speci-  
mens very short, as mentioned by  
Dr. Hooker. The corymb can be  
called 'oligocephalous' only in de-  
pauperate specimens; in the larger  
ones it bears as many as forty  
or fifty heads. The larger petioles  
are naked above; the others are  
broadly wing-margined.

Jacq.  
7. Senecio acanthifolius, Humb. &  
Senecio acanthifolius, Jacq. Bot.  
Humb. &



Voy. Pol. Ind. t. 11, Stock. f. l. c.  
p. 318.

Stat. Orange Harbour, Fregia.

A less excellent form of this well marked species than that characterized by Dr. Hooker; the leaves of rounder outline, rather retund cordate-ovate than oblong-ovate; the lower petioles sometimes five or six inches long and with one or two <sup>small</sup> lateral appendages, above the middle, ~~the numerous heads of~~ <sup>(or rarely few)</sup> ~~the compound~~ ~~considerably smaller~~ The subcapitate-truncate tips of summit of the branches of the style bear a subulate apiculation.

8. Senecio Websteri, Hook. f.

Var.  $\beta$ . subdiscoidens: ramis adscen-  
dentibus; foliis flabellatis grosse  
crenato-dentatis, basi nunc  
truncata nunc <sup>late</sup> cuneata; li-  
gulis paucis parvis tubo bre-  
vioribus.

Stat. Orange Harbour, Jamaica.

This is probably a variety of  
Dr. Hooker's S. Websteri, founded on  
a single and insufficient specimen  
from Staten Land. The stems are  
much branched, apparently spreading  
or declined, a foot long, the ~~basal~~  
branches ascending, the older  
parts glabrate, the younger, like the  
petioles and the lower face of the  
leaves, clothed with a loose, areolose

wool. The leaves, though thin in the dried specimens, were evidently succulent. They are mostly a little broader than long, less than an inch in diameter, faintly flatulate-ly veined, either truncate or very broadly cuneate at the base (but none of them cordate), then entire, the rest of the circumference cut into from five to 8 coarse and blunt teeth or crenatures, the upper surface glabrous, the whole margin revolute. Petiole about the length of the blade, slender. Heads few in a short and nearly sessile cluster. Involucre campanulate, 3 lines long, scarcely bracteolate; the scales lanceolate, acute. Ray-flowers several, not exceeding the disk; the <sup>abortive</sup> ligule not half the length of its tube, shorter than the styles, truncate. Branches of the style of the



disk. flowers capitulate, Achenia  
glabrous.

9. Senecio Darwinii, Hook & Arn.

Senecio Darwinii, Hook. & Arn.  
in Jour. Bot. 3, p. 333; Hook. & Arn.  
Fl. Antarctic. 2, p. 317.

Var.  $\beta$ . eradiatus: humilis, con-  
densatus; foliis parvis; ligulis  
nullis.

Senecio Laseguei, Humb. & Jacq. l. c. t. 13<sup>3</sup> ex tab.

Tab. Orange Harbour, Fruegia.

The specimens represent various,  
more or less condensed forms, among

which the most condensed, ~~and~~  
smallest-leaved, and most glabrate  
specimens want the rays. I  
cannot think them specifically  
different from the others.

10. Senecio Eightsii, Hook. & Arn.

Stat. Good Success Bay, Fregia,  
the variety of Dr. Hooker (Fl. Antares,  
l. c.), with lax or decumbent stems,  
more leafy flowering branches, short-  
peduncled heads, - in fact the  
more luxuriant state of the  
species. Also, perhaps, a form  
of S. Darwinii, <sup>among a thousand others,</sup> and a good case <sup>to</sup>  
appeal to in favor of the Darwin-  
ian hypothesis of the differentiation  
of species through variation and  
natural selection.

11. Senecio trifurcatus, Less.

Senecio trifurcatus, Less. Sm. p.  
341; DC. Prodr. 6, p. 435; Hook. f.  
Fl. Antarctic. 2, p. 317, t. 108

Jussilago trifurcata, Forst. in  
Comm. Gott. 9, p. 38

Senecio Magellanicus, Forst. in  
herb. Mus. Par.

Bellis foliis apice incisis, Com-  
m. in herb. Mus. Par.

Stab. Orange Harbour, Fuzgia.

This is well figured by Dr.  
Hooker, who has represented a young  
stolon on one specimen. These stolons,  
although not mentioned in any published  
description, are sometimes very conspic-  
uous. They occur in one of Comm-  
erson's specimens. The scape is from 2 to 5,  
or in one specimen 9, inches high.



\* \* Chilenses.

12. Senecio sinuatilobus, DC.

Hab. Coast of Chili, in the vicinity of Valparaiso.

13. Senecio glaber, Less.

Hab. Near Valparaiso and Santiago, Chili.

14. Senecio Bridgesii, Hook. & Arn.

Hab. Chili, in the vicinity of Santiago. Flowers <sup>(20-30)</sup> and scales of the involucre more numerous than the character assigns; differs from the foregoing mainly in the glabrous achenia.

15. Senecio fistulosus, Paepp.

Senecio fistulosus, Paepp. bot. chil.  
p. 230; Less. in Linnaea, 6, p.  
246, non DC., certe non  
Remy in Gay Fl. chil.

S. bracteata, Bert. bot.; DC.  
l.c. p. 417; Hook. & Arn. in  
Journ. Bot. 3, p. 340; Remy in  
Gay Fl. chil. 4, p. 194.

Hab. Chili, in the vicinity  
of Santiago.

16. Senecio bustillosianus, Remy.

Senecio bustillosianus, Remy in  
Gay, Fl. chil. 4, p. 155.

S. aizoides, Hook. & Arn. ined. in  
Hort. Hook.

Hab. Chili, in the first Cordillera

above Santiago; with some  
incomplete specimens having  
entire and linear leaves and  
rather ~~small~~ smaller, subse-  
ditary heads, which may be  
S. Lastarrianus, Kemy.

17. Senecio Monttianus, Kemy.

Senecio Monttianus, Kemy in  
Gray, Fl. Chil. 4, p. 158; Wedd.  
Chlor. And. 1, p. 120.

S. glandulosus, Don ined., in  
Hort. Hook.

Hab. Andes of Chili, on the  
first cordillera above Santiago.

A well marked species; the  
branchlets, &c. beset with rigid  
glandular points; the involucre thickly



glandular; but the scales fewer than the character assigns, only seven or eight in our specimens.

\*\*\* \* Peruviani.

18. Senecio volubilis, Hook.

S. fruticosus, scandens, glabrescens;  
foliis membranaceis oblongo-  
ovatis cordatisve crenato-denta-  
tis vel repandis subtus nunc  
villosulis seu tomentisculis,  
petiolo longiusculo nudo  
vel supremum basi aurito-dil-  
atatis; corymbis axillaribus et  
terminalibus subpaniculatis  
laxis; involucri glabro parce  
calyculato 8-12-phyllo disco  
breiore; ligulis 5-7; fl. disci 18-  
20; achenio puberulo.

Senecio volubilis, Hook. Bot.  
Misc. 2, p. 226.

Hab. Near Callao, Peru.  
Collected also by Donkey and by  
Matthews.

Leaves 2 or 3 inches long, thin.  
Auricles of the petioles, when  
present, small, more or less toothed.  
Heads half an inch long. Flow-  
ers yellow.

~~19. Senecio tephrodes sp. nov.~~

~~S. herbaceus~~

19. Senecio <sup>candidus</sup> ~~subaltiss~~, Sp. Nov.

S. herbaceus vel basi frutescens,  
laxe arenoso-lanatus; caule  
mox glabrato <sup>sesquipedali</sup> erecto apice  
corymboso; foliis membranaceis,  
<sup>caninis</sup> oblongis ovato-subcordatis vel  
subdeltoides grosse duplicato-  
dentatis <sup>crenatisve</sup> ~~obtusis~~ supra gla-  
bratis subtus tomentoso-inca-  
nis, petiolo saepius alato;  
capitulis in corymbo 3-9 longe  
pedicellatis; involucro circiter  
20-phyllo glabrescente (squamis  
linearibus) basi bracteolis brevibus  
suhulatis parce calyculato; li-  
gulis elongatis; acheniis sericeo-  
puberulis. — Ludit foliis sinu-  
atis et in

Var. β. minor; caule subaphyllo  
oligocephalo; foliis lyrate-pin-



ratifidis sem pinnatifid-  
tis, petiolo basi saepe  
stipulato - appendiculatis.

(Andes of  
Hab.) Peru, in the vicinity  
of Obrajillo. Also collected at  
on the crest of Puruchuca  
by Matthews, and in some  
part of Peru by Pavon.

Plant a foot or two high;  
the stems perhaps a little woody  
at the base, mostly branched,  
the areolae wool Caducous, then  
glabrous, terete, faintly striate,  
basal leaves 2 or 3 inches in  
length, including the petiole, only  
the uppermost sessile, varying  
from deltoid-subcordate to oblong,  
obtusely or sometimes acute,  
A Coarsely and doubly crenate-toothed,  
sometimes sinuate-incised and  
rather gradually contracted at the

base into the toothed or lobed  
wing of the Petiole, but mostly  
abruptly contracted into an entire  
wing or margin, which is scarcely  
if at all dilated at the base;  
the upper surface glabrous or  
nearly so; the lower whitened  
with a close areolose tomentum,  
bryanth naked. Pedicels, an  
inch or two in length, <sup>glabrous, except the floccose deciduous wool</sup> bearing  
a few setaceous bracts. In-  
volucre cylindraceous, half an  
inch long, the appressed caly-  
ulate bractlets only one or two  
lines long. Flowers yellow.  
Ligules linear, 5 lines long. Disk-  
flowers about 40; branches of the  
style capitate-truncate. Ova-  
ries silky, cinereous. - The var.  
β. ~~is a~~ has simple and more  
naked stems, the smaller only  
six inches high, more hoary (but

younger) heads, and pinnatifid  
lower leaves, mostly with stipuli-  
~~form~~, roundish and incised or  
toothed ~~apex~~ stipuliform ap-  
pendages at the base of the petiole.

20. Senecio gracilipes, Sp. Nov.

S. herbaceus, <sup>(puberulus)</sup> proin<sup>no</sup>ov-~~puberulus~~,  
caule erecto simplici pedali  
parce foliato, <sup>oligocephalo</sup> foliis gracillime  
petiolatis membranaceis, in-  
ferioribus longissime graciliter  
petiolatis ovatis subtruncatis  
sinuato-5-7-lobatis lobis dentic-  
ulatis, superioribus parvis pau-  
cis pinnatifidis petiolo basi  
aurito-dilatatis; capitulis lin-  
gineis pedunculatis disci-  
deis; involucri parce ~~bract~~  
calycis bracteolis setaceis



Calyculato 20-phylo, squamis  
lineari-lanceolatis dorso hirtellis,  
achenis minutim hirtellis.

Stat. Andes of Peru, in the  
vicinity of Obrajillo.

Stem simple, ~~from~~ 6 to 16  
inches high from a perennial root;  
The larger <sup>plants</sup> bearing 3 or 4 carline  
leaves having slender petioles of  
about four inches in length, the  
lamina 2 or 3 inches long and about  
2 inches wide, pinnately 5-7-lobed  
or sinuate, <sup>and</sup> <sub>p</sub> nearly truncate at the  
base. Above the smaller specimens  
are leafless. The larger bear one  
or two ~~and~~ smaller or reduced  
leaves, the petioles shorter and  
annulate-dilated at the base.  
Heads 3 to 5; peduncles an inch

or two in length, naked. Involucres 7 ~~times~~ or 8 lines long; the scales linear-lanceolate carinate towards the base, beset with small, <sup>short,</sup> crisped or jointed hairs, <sup>or weak bristles,</sup> like those of the stem and foliage, but more conspicuous. Rays none. Disk-flowers 50 or more. - A well-marked new species; but the specimens are poor and scanty.

21. Senecio Myoseridifolius, Wedd.

Senecio Myoseridifolius, Wedd.,  
Chlor. And. 1, p. 108.

Hab. Near Baños, Andes of Peru; a polycephalous specimen, and near Casa Blanca in the high Andes; a dwarf, ~~state~~ monocephalous form, only a span high. Mr. Matthews also collected this species near Pasco.

22. Senecio Richii, Sp. Nov.

S. herbaceus, glaber; caule erecto gracili apice corymboso polycephalo; foliis angustissimè linearibus plerumque laciniatis vel pinnatipartitis; capitulis parvis discorideis pedicellatis; involucrio parce minutissime bracteolato 12-13-<sup>obtusiusculis;</sup> phyllo, squamis lanceolatis acheniis hirtellis.

Var.  $\beta$ ? foliis latioribus, lobis lanceolatis; caule pale<sup>floridis</sup> ramis patentibus.

Stat. Andes of Peru, in the vicinity of Obrajillo.



Base of the stem unknown,  
probably wholly herbaceous.

The specimens consist of the  
upper part of two flowering  
stems, over a foot in length, slender,  
leafy to the summit, where it di-  
vides into a loose <sup>and wide</sup> corymb.  
Leaves not dilated at the base,  
nor distinctly petioled, one or two  
inches long, sparingly pinnatifid  
or the smaller ones entire, the  
rachis and the <sup>short</sup> segments at most  
a line and a half wide, often much  
narrower and almost filiform.  
Pedicels 6 to 16 lines long, slender,  
minutely bracteate at the summit.  
Involucre barely 3 lines long, shorter  
than the disk, glabrous, as is the  
whole plant, the calyculate bract-  
lets few and very short. Flowers  
between 40 and 50, yellow. Ovaries

minutely hairy. — <sup>(doubtful)</sup> The variety  
is the summit apparently of a coarser  
~~plant~~ and more branched plant  
with broader leaves. It was,  
I believe, collected likewise by  
Matthews at Calluani, and is  
probably ~~of a different sp.~~ dis-  
tinct.

23. Senecio collinus, DC.

Hab. Andes of Peru in the vi-  
cinity of Obrajillo. Also gathered  
near Pasco by Matthews.

~~24. Senecio Matthewsii <sup>var.</sup> Wedd.~~

~~Hab. Andes of Peru~~

24. Senecio flaccidifolius, Wedd.

Senecio flaccidifolius, Wedd. Chlor.  
And. 1, p. 113.

Hab. Andes of Peru in the  
vicinity of Baños. (Not wholly  
conformed to the character, but probably  
of this species.)

25. Senecio adenophylloides, Schultze  
(Bip.)

Senecio adenophylloides, Schultze,  
Bip. in Bourplandia, 4, p. 55; Wedd.  
l.c.

Hab. High Andes of Peru at  
Alpamarca or near Baños. A  
low ~~shrubby~~ suffrutescent plant.



26. Senecio spinosus, DC.

Hab. High Andes of Peru, between Baños and Alparmarca.  
(Well described by Weddell, l.c.)

27. Senecio Pickeringii, Sp. Nov.

S. fruticosus, ramosissimus, glaber;  
ramulis brevis rigidis, flo-  
riferis capitula 1-3 subpedi-  
cellata saepe mutantia gerenti-  
bus; foliis crebris linearibus  
sen linearibus oblongis sessilibus  
subcarnosis grosse pinnatis-  
fido dentatis rariusve integris;  
bracteolis calyculi ovatis sen  
obovatis involueri <sup>(10-12)</sup> late oblan-  
gis tertia parte triente brevior-  
ibus; ligulis nullis; achenis

glabris; pappi setis barbel-  
lutatis.

Var.  $\beta$ .? foliis minus carnosis  
magis incis; <sup>capitulis minoribus;</sup> ~~involucris~~ brac=  
teolis squamisque involucri  
angustioribus.

Stat. High Andes of Peru, be=  
tween Casa Bancho and Bullmai.  
Var.  $\beta$ . Near Baños.

A low, rigid shrub, totally  
glabrous, <sup>crowded, thick,</sup> with more or less fleshy,  
short leaves (half or three quar=  
ters of an inch long), and nodding  
heads (4 or 5 lines long) either solitary  
or usually ~~cross~~ clustered at the  
extremity of the short and spread=  
ing branchlets. The species is re=  
markable for the <sup>ample</sup> calyculate scales,  
which are several in number, re=

markedly broad, ovate or some-  
times obovate, thin in the dried  
specimens (perhaps rather fleshy  
when fresh) with scarious and  
somewhat erose-denticulate mar-  
gins, a little shorter than the  
<sup>proper</sup> involucral scales into which  
they seem to pass. The latter  
are similar in texture and ap-  
pearance, but ~~thinner~~ more  
scarious, and oval or oblong, very  
obtuse, as long as the Disk.  
Flowers 40 or 50, all herma-  
phrodite. Achenia perfectly gla-  
brous. Pappus of slender and  
almost barbellate bristles. The  
calyculus in size and form re-  
sembles that of Middell's S.  
glacialis; but the proper scales  
of the involucre are much  
broader. Indeed the whole might  
well be described as an imbrica-



ted involucre. — The materials  
of the variety are insufficient;  
the narrower scales of the inv-  
lucre and its calyculus appear to  
separate it, but there is <sup>an inter-</sup> ~~a trans-~~  
<sup>mediate</sup>  
~~transary~~ specimen.

28. *Senecio Danäi*, sp. nov.

*S.* <sup>*caespitoso-*</sup>  
*suffruticulosus*, <sup>*caespitoso-*</sup> *depressus*, gla-  
bratus; foliis crebris carnosulis  
linearibus ~~sterisque~~ inciso-3-5-  
dentatis subpinnatifidis vel in-  
tegerimis primis cum caule  
~~lanulosis~~ apice subaphyllo  
monocephalo lanulosis; capit-  
ulo mutante disciideo; involu-  
cri squamis 14-16 lato-line-  
aribus obtusis cum bracteis  
calyculi dimidio brevioris

Dorso  
(nigro-pubescentibus; acheniis  
glabris cinereo-puberulis.

Stab. Alparamarca, in the  
high Andes of Peru.

Stems depressed and branching,  
apparently forming matted tufts  
on the surface of the ground, the  
flowering summits <sup>ascending</sup> ~~rising~~ to the  
height of one or two inches.  
Leaves 3 or 4 lines long, crowded,  
or rather scattered on the flower-  
ing shoots. Thickish, at first  
thinly woolly-pubescent, as is  
the stem, soon glabrate, ap-  
parently a little viscid, mostly  
bearing a few short and blunt  
teeth or lobes. Head single ~~and~~  
or rarely a pair, nodding, on the  
slender and pedunculiform sum-  
mit of the stem, 5 or 6 lines long.

about 60-flowered; the involucre  
and the few and lax lanceolate  
bractlets villous-pubescent with  
~~dark-colored~~ blackish and  
somewhat glandular hairs, at  
length rather glabrate. Achene  
minutely hoary-pubescent. -  
A well-marked alpine species;  
dedicated to the distinguished Geolo-  
gist of the Expedition.

29. Senecio nummiformis, <sup>Schultz Bip.</sup> Wedd.

Senecio nummiformis, <sup>(Schultz Bip. l.c.;</sup> Wedd.,  
Chlor. And. 1. p. 104, t. 19.

Stat. High Andes of Peru  
at Alparmarca. + - l - + - l - + - c +  
+ + + +. A very depressed, caespitose ~~spe-~~  
~~cies~~ plant, agreeing with the typical  
form characterized by Weddell, but



with the involucre about 10-leaved,

30. Senecio evacoides, Schultz Bip.

Senecio evacoides, Schultz Bip.  
in Bonplandia, 4, p. 52;  
Nodd. Chlor. And. 1, p. 105.

Stat. High Andes of Peru at  
Alpamarca and Casa Cuncha. Also  
collected in the Peruvian Andes by  
Matthews and by L. Hb. — Our  
specimens well accord with the char-  
acter except that the bristles of the  
pappus are indistinctly if at all  
barbate at the apex.

31. Senecio dictinus, Nodd.

Senecio dictinus, Nodd. Chlor.  
And. 1, p. 107.

Stat. Between Casa Blanca  
and Bulluain in the high Andes  
of Peru.

The female plant of this  
species, which only was known to  
Noddell (from ~~a~~ specimens collected  
by Dombey) ~~also occurs is preserved~~  
was also gathered in the Peru-  
vian Andes by McLean (in herb.  
Hort.). Our own very scanty  
specimens comprise both sexes, or  
subsexes, for the female flowers have  
imperfect anthers, <sup>and</sup> the ~~female flowers~~ <sup>staminate</sup>  
a pistil like that of the female,  
only the branches of the style are  
minutely papillose-hairy external-  
ly, as in <sup>Noddell's</sup> *S. iodopappus*. The  
~~female~~ style in the female flowers,  
instead of resembling those of the  
hermaphrodite blossoms of *Senecio*  
generally, ~~are~~ imitate those of the

ray-flowers of this genus. The male heads are rather broader than the female ones, and the anthers are exserted. From analogy we should expect this tendency towards a separation of the sexes in every degree; and Weddell is doubtless ~~right~~ right in ~~retaining~~ placing this species, with his S. Antennaria, in Senecio. I add the following to the group, although the indications of missexuality are less pronounced.

32, Senecio pellitus, sp. nov.

S. nanus, herbaceus, succulentus,  
acaulescens, indique pilis  
longis sericeis dense crinitus;



(vel subrotundis  
foliis rosulatis obovatis) integerrimis sub-3-5-nerviis in petiolum brevem attenuatis; scapo  
~~laevi~~ brevi vel subnullo monocephalo; involucro 20-phyllis ecalyculato; ligulis nullis;  
floribus ~~(subhermaphroditis)~~ creberrimis; stylis raris obtusis  
(nec truncatis) hirsutis; achenis glabris; pappo rigidulo.

Stat. High Andes of Peru,  
near Casa Blanca.

Creeping rootstocks or stolons slender, bearing at their summits a rosulate tuft of leaves, their blade half an inch long and almost as wide, obtuse, entire, obscurely 3-5-nerved, densely clothed, as is the involucre, &c., with a coat of long, straight, soft and

silky-villous, somewhat appressed, fulvous hairs, the base abruptly contracted into a short petiole. Head sessile, or raised on a scape of less than an inch in length and bearing one or two linear leaves or bracts. Involucre 6 to 8 lines long, shorter than the disk; the scales about 20, linear-lanceolate, with scarious margins, very silky-villous ~~on the~~ <sup>externally</sup>. Disk ~~as~~ corolla with a slender tube and a somewhat elongated throat, which is sparingly beset toward the ~~base~~ base with some minute hairs. The flowers are structurally hermaphrodite in the specimens; but the anthers seem to be imperfect, <sup>though they bear some pollen.</sup> The branches of the style, like those of the preceding species,

are compressed and obtuse, not truncate, capitulate, or at all appendaged at the summit, the outer face minutely hispid for nearly the whole length. Pappus white, rigid for a series, the bristles gradually thickened at the base, copious, in two or more series, longer than the flowers, half an inch in length.

33. Senecio aracholomus, Nutt. <sup>l.c.?</sup>

Hab. Andes of Peru near Baños; an insufficient specimen which may doubtfully be referred to this species.



34. Senecio macrohizus, Wedd. <sup>l.c.</sup>

Stat. Alpamarca in the high Andes of Peru. - Insufficient specimens, allied to S. peltatus, but the foliage glandular-villous, with some lax deciduous wool beneath, the involucre nearly glabrous and gamophyllous at the base. The same plant, I believe, was gathered at Pasco by Matthews (no. 648, in herb. Hook.).

35. Senecio repens, St., var. taraxiifolius.

Stat. High Andes of Peru, near Caza Cancha.

The scanty and poor specimens so nearly accord with S. repens, &

the sides farther north (which is well illustrated by Meddell), that I can regard them only as forms belonging to a variety of that species with irregularly and deeply pinnatifid leaves, which apparently are not so rosulate and smoother.

Tab. . . )

36. Senecio wernerioides, Medd. (1

Senecio wernerioides, Medd. Chlor.  
And. 1, p. 128, t. 19.

Var. β. exscapus: capitula inter folia  
rosulata sessili creberrime pin-  
natifido-dentata sessili.

Var. γ. scapulosus: scapo multihacte-  
ato folia spatulata simpliciter  
dentata subaequant.

Stat. High Andes of Peru:  
var.  $\beta$ , at Alparmarca, V. Between  
Culluani and Obajillo.

This well-marked species has  
recently been published and figured  
by Meddell, on his specimens, col-  
lected in the Andes of the southern  
part of Peru, which are interme-  
diate between our two strongly  
marked varieties;—one, destitute of  
any scape, the head sessile among  
the leaves, which are just like  
those of Meddell's figure, ~~except~~ but  
rather more incised; the other, a  
more evolute form, has less wovulate  
leaves, from 3 to 5 inches long inclu-  
ding the petiole, and only simply  
repand-toothed. Scape one and a half  
to three inches high, furnished with  
many slender linear bracts. Head



hemispherical, 7 or 8 lines high,  
~~the~~ Scales of the involucre connate at the base.  
Very many-flowered. Pappus  
soft and white.

The allied S. rhizocephalus,  
described by Weddell, was discov-  
ered by Matthews (no. 624, in  
herb. Hook.) at Casa Barcha.

Plate

Senecio werneri-

oides. A. Var. escapus, Fig. 1. Ray-  
flower. 2. Disk-colla, ~~and~~ stamens, and  
style displayed. 3. Summit of the style.  
B. Var. scapous, Fig. 4. Ray-flower.  
5. Disk-flower. flower. 6. Summit of the  
style. The details variously magnified.

\*\*\*\* Novo-Zealandici, et Aus-  
traliani.

37. Senecio glastifolius, Hook. f.

Senecio glastifolius, Hook. f.

Fh. N. Zeeal. 1, p. 147, t. 39.

Solidago arborescens, A. Brum.

Prodr., non Banks Island., nec  
Forst.

Hab. Bay of Islands, New  
Zealand.

A good Senecio, although  
the bristles of the pappus are some-  
what more rigid than is usual, and  
the branches of the style are compressed  
and obtuse, instead of truncate or  
capitellate, both characters occur-  
ring in other species of the genus.  
As to the achenia, they are linear,

and with no more dilatation  
at the top than is very common  
in Senecio.

38. Senecio (Brachyglottis) <sup>Hook. f.</sup> Forsteri.

Senecio (Brachyglottis) Forsteri. Hook. f.

<sup>Schlecht.</sup> Fl. N. Zee. 1, p. 148, t. 40, non

Brachyglottis repanda, Forst. Char.  
Gen. p. 91, t. 46; DC. Prodr. 5,  
p. 210.

Hab. Bay of Islands, New Zealand;  
without flowers.

\*\*\*\*\* Australiani, etc.

33. Senecio tripartitus, A. Rich., <sup>DC.</sup>

Hab. Hunter's River, New South  
Wales.

~~The~~ lobes divisions



Many of the cauline leaves  
are simply pinnate; the divisions  
filiform or nearly so; and the  
species perhaps passes into Dr.  
Hooker's S. capillifolius.

34. Senecio pauciligulatus. <sup>DB</sup> A. Rich.

Tab. New South Wales, with the  
preceding species.

35. Senecio lividus, Linna. was  
picked up at St. Helena and Madeira.

36. Senecio rosmarinifolius, Linna. var.  
Bergianus, DB.,

37. Senecio pubigerus, DB.,

38. Senecio pinnulatus, Thunb.,

from the Cape of Good Hope; along  
with Euryops abrotunifolius, DB. ~~and~~  
~~fragments of some other common Cape Compositae.~~

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Athousa hypleuroides, D.C.

The Cynarea of the collection are so unimportant that they need only be enumerated:—

Calendula Madeirensis, D.C. was picked up at Madeira.

Osteospermum moniliferum, Linn. at St Helena, introduced from the Cape of Good Hope.

Osteospermum laxum, D.C., Cape of Good Hope.

Cymbonotus Lawsonianus, Gandich. at New South Wales.

Gallunmia setosa, R. Br., Cape of Good Hope.

Carlina sulcifolia, Less., Madeira.

Gentanea Melitensis, Linn., Rio Negro, Patagonia, and Hunter's River, New South Wales.



Cynara cardunculus, Linn., Rio  
Aguero, North Patagonia.

Leuzea australis, Gandich.,  
Queenstown, New South Wales.

Subord. II. Bilabiati florae.

Chuquiraga, Juss.

1. Chuquiraga oppositifolia, Willd.  
+ Don.

Chuquiraga oppositifolia, Willd. & Don in  
Edinb. Phil. Mag. ann. 1832, p. 392;  
Hook. & Arn. Comp. Bot. Mag. 1, p.  
109; DC. Prodr. 7, p. 10; Kunze in  
Gay, Fl. Chil. 3, p. 277; Wedd. Chlor.  
And. 1, p. 3.

C. alpina, Poepp. ex Sieb.; Less. Syn. p. 46.

C. chrysantha, Gardn. Sert.  
Pl. A. 42.

Hab. Andes of Chili above  
Santiago. — Throat and tube  
of the corolla not bearded inside,  
as in the succeeding, but gla-  
brous.

2. Chuquiraga spinosa, Don.

Chuquiraga spinosa, Don in  
Linn. Trans. 16, p. 285, &c. l.c.;  
Remy, l.c.; Wedd. l.c.

Baccharis spinosa, Ruiz & Pav. Syst. 1,  
p. 188.

Hab. <sup>Chili</sup> Andes of ~~Peru~~ above Santi-  
ago, and of Peru between Casa  
Baranca and Culluac; — the Chilean  
specimens exactly like the Peruvian.

3. Chusqueira acicularis, Don, <sup>l.c.</sup>

Hab. Andes of Chili above  
Santiago; an imperfect specimen.

4. Chusqueira erimacea, Gill &  
Don, l.c.

Hab. Rio Negro, North Patagonia; plentiful.

Flotowia, Spreng.

1. Flotowia ferox, Wedd. l.c.

Hab. Peru, in the vicinity of  
Chajillo.

From the description our plant



must be Weddell's F. ferrug.,  
of the Bolivian Andes, although  
the divisions of the corolla are  
glabrous except the outer face  
at the summit, which is bearded,  
and the flowers seem to be her-  
maphrodite. The slender spines  
are an inch or an inch and  
a half in length; the spines-  
cently tipped leaves about the  
same length, or the uppermost  
shorter. Heads corymbose-fasci-  
cled, 6 or 7 lines long, about 12-flow-  
ered. Anthers linear, equalling  
the lobes of the corolla, ecaudate,  
as in Dasyphyllum, which is  
rightly reduced to this genus by  
Weddell. Style exserted, glabrous.  
Achenea villous.

2. Flotovia excelsa, Db. l.c.

Piptocarpha excelsa, Hook. &  
Arn. in Comp. Bot. Mag. 1, p. 118.

Stat. Chili, in the vicinity  
of Valparaiso, where alone the  
species is known to occur. But the  
Flora Chilena excludes the plant  
from the Chilian flora.

Omoseris, Db.

1. Omoseris integrifolia, Less.

Stat. Obrajillo, Peru, collected  
in Peru by Nie, Dombey, McLean,  
Matthews, and, according to the latter  
in Peru, Hook. by Ruiz and Paron.  
But the peduncle is usually bracte-  
ate, the bracts small and setaceous.

2. Groseria odorata, Hook. & Arn.

Leysera odorata, Ruiz & Pav.

Herb. ex Don

Chatakhlena odorata, Don in ~~Re~~

Linna. Trans. 10, p. 256.

Groseria odorata ~~f~~ Cumingi, ~~f. americana~~

~~(Herb. forma squamulosa constans)~~

Hook. & Arn. in Comp. Bot. Mag.

1, p. 103, adn.; DC. Prodr. 7, p. 34.

Cursonia Peruviana, Nutt. in

Trans. Amer. Phil. Soc. n. ser.

7, p. 422.

Hab. Obrajillo, Peru.

An annual herb, a span or less in height; the primary stem erect, the lateral, radical branches often decumbent. Scales of the involucre very variable as to the setaceous tips.



Receptacle fimbriate. Bristles  
of the pappus, said by De Can-  
dolle to be biserial, are better des-  
cribed by Don as in a triple order,  
the interior (five or six) larger  
and much stouter, the outermost  
very short. ~~The receptacle is fin-~~

Trichocline, Cass.

1. Trichocline incana, Cass.

Hub. Rio Negro, North Patagonia;  
deflorate.

Barnadesia, Linn. f.

1. Barnadesia Dombeyana, Less.

Barnadesia Dombeyana, Less.

in Linnaea, 5, p. 246; Ob. Prodr.,  
7, p. 2.

B. lanceolata spinosa, Lam.

M. t. 660, f. 1, non Linn. f.

B. lanceolata, Don in Linn. Trans.

16, p. 277; Ob. l. c. p. 3.

Hab. Obrajillo, Peru, where  
it is said to be common, and "an  
ornamental shrub, four to eight feet  
high, with large purple flowers."

Writing the two nominal species  
the slightly posterior name of Lessing is  
preferred to that of Don, since the leaves  
are ~~not~~ hardly lanceolate.

2. Barnadesia reticulata, Don<sup>l.c.</sup>

Hab. Obrajillo, Peru, at the cascade.

Said in Dr. Pickering's notes to resemble the foregoing, but have compound heads. There is a mere fragment in the collection, destitute of flowers; the leaves glabrous or glabrate, veiny, ~~do~~ not ribbed.

Mutisia, Linn. f.

1. Mutisia speciosa, Hook.

Hab. Brazil, in the vicinity of Rio Janeiro. (Involucre an inch and a half long.)



2. Mutisia viciaefolia, bar.

Mutisia viciaefolia, bar. Le. 5, p.  
62, t. 490; Don, l. c.; Hook. Bot.  
Misc. 2, p. 222; DC. Prodr. 7, p.  
5; Wedd. Chlon. And. 1, p. 15.

M. Candolleana, Gardn. & Field.  
Sert. Pl. t. 45, 46.

M. hirsuta, Meyen; Malp. Rel.  
Meyen. p. 284.

Hab. Near Obrajillo, Peru,  
where, according to Dr. Pickering's  
notes, an ornamental pinnate-  
leaved species abounds, but no  
specimen is preserved. Mr. Cruck-  
shanks gathered M. viciaefolia at  
Obrajillo.

3. Mutisia latifolia, Don, l. c.

Hab. Chili, in the vicinity of Valparaiso,  
leafy branches only,

4. Mutisia Matthewsii, Hook. & Arn.

Mutisia Matthewsii, Hook. & Arn.  
in Comp. Bot. Mag. 1, p. 107,  
adn.; Wedd., Chlor. And. 1, p. 19.

Hab. Andes of Peru at Baños.

The specimens have a more persistent floccose wool, ~~than~~ especially on the lower surface of the leaves, — than the form characterized by Hooker and Arnott. Weddell has completed the character of the species, which was overlooked by DeCandolle, Walpers, &c. The minute appendage which abruptly tips the upper is usually enveloped in the small tuft of wool which adheres to the apex, and often falls away with it, so that these scales appear to be very obtuse and wholly inappendiculate. Ligules 10 or 12.

5. Mutisia Mastata, Cav.

Var. Peruviana: foliis angustioribus;  
alis ramulorum in dentes acu-  
tissimos ~~alte~~ partitis fere  
divisis; involucri squamis  
superioribus vix appendiculatis.

Stat. Andes of Peru, between  
Culluac and Obrajillo.

Although the M. Mastata  
described and figured by Caran-  
illes came from the Chilean  
Andes, yet he adds (what sub-  
sequent authors have overlooked)  
that he had it also from Peru,  
gathered by Née. This is confir-  
med by our specimen, which well  
accords with the figure and ~~descrip-~~  
Description of this species, except



that the leaves are smaller ( $2\frac{1}{2}$   
or 3 inches long, and 4 or 5 lines  
broad at the sagittate-hastate  
base) and the upper scales of  
the involucre are inappendic-  
ulate, or bear a very small and  
deciduous appendage. The ligules  
are 10 or 12.

6. Mutisia subulata, Ruiz & Pav.

Stub. Chili, in the vicinity of  
Valparaiso, and to the Cordilleras.

7. Mutisia linearifolia, Kemy

Mutisia linearifolia, Kemy in  
Gay Fl. Chil. 3, p. 271; Wedd.  
Chlor. And. 1, p. 19.

M. linearifolia, Hook. Bot. Misc.  
1, p. 12, t. 8.

Stat. In the Andes of Chile  
above Santiago.

Stiftia, Mikam.

1. Stiftia chrysantha, Mikam.

Stat. Rio Janeiro, Brazil,  
collected in the Botanic Garden.

Moquinia, DC.

1. Moquinia polymorpha, DC. var.  
elaagnifolia, Less.

Stat. Brazil, in the Organ  
Mountains near Rio Janeiro.

Gochmatia, H.B.K.

1. Gochmatia (Pentapnomus) foliolosa.

Pentapnomus foliolosus, Don in  
Linn. Trans. 16, p. 297.

Pentapnomus pyrifolius? & P. glutin-  
osus, Gill.; Don in Edinb.  
Phil. Mag. <sup>ann.</sup> 1832, p. 392.

Gochmatia pyrifolia, rigida, & glu-  
tinosa <sup>(Don)</sup>; Hook. & Arn. in Comp.  
Bot. Mag. 1, p. 108.

G. fascicularis, pyrifolia, rigida,  
& glutinosa, Lb. Prodr. 7, p. 25;  
Kerney in Gay Fl. Chil. 3, p.  
290.

Hab. Chili; near Valparaiso,  
and on the Andes above Santiago.  
The specimens <sup>are all referable to the var. rigida; those</sup> from near the  
coast, with broader leaves, although  
sparingly denticulate, approach Ber-



Herzog no. 989, which I take to  
answer well to Don's original Pent-  
apnomus foliolosus. Those from the  
Andes above Santiago, with lanceolate  
leaves, some of them strongly dentic-  
ulate, others quite entire, accord with  
Don's G. rigida<sup>var.</sup>, and with the  
G. fascicularis of De Baudolle and  
of Kemy. But Don's G. fascicu-  
laris, I believe is different, and  
it is said to have "numerous  
florets in the capitulum". In  
any case the specific name foli-  
olosa takes precedence for our <sup>(polymorphous)</sup> plant.

Cyclolepis, Don.

1. Cyclolepis genistoides, Don.

(On the plains at the mouth of the  
Hab.) Rio Negro, North Patagonia;  
nearly deflorate.

The materials are insufficient for any investigation of this genus. The tails of the anthers, in some flowers from a specimen out of Gillies' collection, are not lacerate, but sparingly beset with villose hairs.

Ityalis, Don.

1. Ityalis argentea, Don, (Tab.)

Ityalis argentea, Don; Hook. & Arn.  
in Comp. Bot. Mag. 1, p. 108;  
Sc. Prodr. 7, p. 28.

Hab. Salt plains and marshes  
of the Rio Negro, North Patagonia;  
the var.  $\beta$ . Hook. & Arn., with the ovate,  
obtuse, and nerveless involucral scales.

Besides the recorded collections, this plant ~~was~~ occurs in those of Bacle from Buenos Ayres and of D'Orbigny from Patagonia. It is hardly worth while here to draw up a revised character of the genus; but our figures and a few notes will furnish some emendations. As to the receptacle, I cannot verify the "fimbriis callosis singulis sub achenio singulis" of Hooker and Arnott. The receptacle is naked, with broad areolae for the insertion of the five or six flowers, between which one or two minute setulae are often, but not constantly found; I have not observed one for each achenium. The achenia are silky-pubescent, but somewhat



glabrate

^ at maturity, especially near the narrowed base, when the ribs become conspicuous. The bristles of the pappus, which are copious and pluriserial, are no more comate at the base than in all the allied genera, they are nearly equally barbellulate or denticulate. The tails of the anthers are long and stout, and not lacerate, but rather plumose with long, cobwebby hairs. Style not bulbous at the base, gradually thickened towards the summit; the branches very short, thick, and obtuse, naked. A more remarkable peculiarity, ~~is found~~ <sup>and</sup> which rather militates against Weddell's group of Plaricea, — is found in the corollas: these <sup>are more</sup> ~~although~~ commonly.

uniform and bilabiate, as described, but not rarely in our specimens with the limb equally five-parted in one or more of the flowers, perhaps <sup>in</sup> the central one, the lobes revolute, in this as in some other respects showing indicating an affinity with Weddell's Aphyllocladers.

Plate Styalis argentea; branch of the natural size. Fig. 1. Receptacle. 2. A flower. 3. ~~Corolla~~ A corolla regularly cleft. 4. Anther. 5. Summit of style. 6. Achenium and pappus. 7. Portion of a bristle of the pappus more magnified.

Proustia, Lag.

1. Proustia pyrifolia, Lag.

2. Proustia baccharoides, Don.

Stat. Chili, the former in the vicinity of Valparaiso; the latter near Santiago.

Brachyclados. Don

1. Brachyclados lycioides, Don.

Stat. Rio Negro, North Patagonia; the ordinary form, and one with stouter branches and larger heads.

The sterility of the <sup>stamens in the</sup> ray flowers is hardly constant or complete; the <sup>proper</sup> scales of the involucre vary from five to nine, and the bristles of the pappus are perhaps barbellate, but not properly plumose.



(Par.)

Chaetanthera, Ruiz &

1. Chaetanthera linearis, Less.

Chaetanthera linearis, Less. Syn. p.  
112; Hook. & Arn. in Comp. Bot.  
Mag. p. 104; Db. Prodr. 7, p. 30;  
Less. Ic. Sel. 4, t. 80.

Hab. Chili, in the vicinity of  
Valparaiso; a single specimen.

(L.C.)

2. Chaetanthera moenchiioides, Less.

Hab. Andes of Chili; ~~above de~~  
~~Santiago~~ florata.

3. ~~Chaetanthera serrata, Ru~~

tenuifolia.

3. Chatanthera serrata, Ruiz Pav. var.

Chatanthera tenuifolia, Gill.; Don  
in Edinb. Phil. Mag. ann. 1832,  
p. 391, non DC. in Deless. Ic.  
Del. 4, t. 81.

C. eryngioides, Gill.; Don, l.c.

C. spinulosa, Cass. Opusc. 2,  
p. 103?

Stat. Chili, in the vicinity of  
Valparaiso.

The Chatanthera serrata of  
Ruiz and Pavon, being earlier than  
Willdenow's Perdicium chilense,  
has to be adopted. Remy has  
rightly referred to this species  
Don's C. argentea, and the C. tenui-  
folia may be added. The plant  
figured under the latter name in  
Delessert's Icones, however, is C. monch-

ioides, Less.

The Chaetanthera villosa of  
Gillies and Don! is the Carme-  
lita formosa of C. Gay, well fig-  
ured both in the Flora Chilena  
and the Chloris Andina.

4. Chaetanthera Peruviana, Sp. nov.

C. annua, <sup>tenella,</sup> diffuse ramosa;  
foliis lineari-cuneatis vel spa-  
thulatis versus apicem spin-  
uloso-dentatis <sup>late</sup> ~~sub~~ villosis max  
glabratiss, summis ~~paucis~~ circa capi-  
tulum confertis (angustioribus);  
involueri squamis subscariosis  
retusis, exterioribus ovalibus,  
costa in appendicem ~~foliaceam~~  
~~apicem~~ nunc folioformem 1-3-  
dentatam nunc filiformem



producta, interioribus lineari-  
oblongis saepe mucronulatis;  
ligulis linearibus <sup>per</sup> glabris in-  
volucrum vix superantibus,  
labio interiori parvo brevi  
apice bidentato.

Hab. Andes of Peru, between  
Baños and Casa Blanca.

The genus Chatanthera, as  
now limited, is said by Meddell  
to ~~be~~ <sup>geographically</sup> ~~restricted~~ to Chile,  
and not to ascend the Andes to  
the alpine region. Here, however,  
we have a species from the Andes  
of Peru, <sup>inhabiting</sup> the alpestrine if not  
~~in~~ the alpine region, probably only  
in the former. There is in the  
Hookerian Herbarium a depauper-  
ate specimen, I believe of this.

species, ticketed "Canta. Peru",  
then ~~from~~ from the same District.  
This species much resembles C.  
tenella, and has similar folia-  
ge, pubescence, &c. Apparently  
it is more branched from the  
base and diffuse; the involucre  
is decidedly different; the scales  
being all very obtuse and mostly  
retuse or emarginate, the in-  
nermost with a delicate, some-  
times obsolete, mucro in the  
shallow notch, some of the  
middle ones with a filiform or  
narrowly linear, more or less  
foliaceous appendage, the outer-  
most bearing a broader, often  
toothed foliaceous appendage, so  
passing into the leaves which sub-  
tend the head. The ligules resemble  
those of C. tenella, but are <sup>not so</sup> less  
hairy on the back ~~and~~ nor so much

toothed at the apex, while the  
inner lip is minute, and barely  
<sup>no stent. Stamens in the ray-flowers; their styles</sup>  
notched at its apex. ~~Style~~ bifid.  
All the flowers fertile. Achenia  
papillose. Bristles of the pappus  
not coalescent at their base.

July 2.



Oriastrum, Poepp. & Endl.

(Tab. )

1. Oriastrum pusillum, Poepp. & Endl.

Oriastrum pusillum, Poepp. &  
Endl. Nov. Gen. & Sp. 3, p. 50,  
t. 257; Wedd. Chlor. And. 1,  
p. 29, t. 9.

Hab. Andes of Chili above San-  
tiago: a single specimen, detected  
among specimens of the following  
species.

The good figures given by Weddell  
since our illustrations were prepared  
show the identity of our plant  
with Oriastrum pusillum of ~~Poepp.~~  
Poeppig. The details of our illus-  
~~tration~~ = tration are not wholly su-  
perfluous, since they represent  
abortive stamens in the rays, not  
before noticed, - still more appropi-

creating the genus to Tyllonia  
and Egania. The latter genus might well enough be referred  
to Oriastrum, and both perhaps to Tyllonia, ~~but~~ in  
~~serious error~~

transcription has vitiated Med-  
dell's amended character of  
Oriastrum, viz. the achenia  
of the disc, instead of those of the

ray are said to be glabrous,  
~~those of the ray, instead of the disk, papillose and fertile~~  
and effete.

The pappus of  
the fertile flowers <sup>in O. pusillum</sup> compose more  
than one series of bristles, which,  
being united at the very base, fall  
off in a ring, but ~~soon~~ easily  
separate.

Plate

A. Oriastrum pusillum:

single plant, natural size. Fig. 1. A leaf.  
2. A scale of the involucre. 3. A ray-  
flower. 4. A disk-flower. 5. Its corolla. 6.  
displayed. 6. Summit of fertile style. 7.  
Summit of style of a ray-flower. - The  
details variously magnified.

~~erating the genus to Tylloma~~

Plate

(~~Aldumatea~~) Tab. ( )  
2. Oriastrum, Chilense, Wedd. (K)

Tylloma pusillum, Don in  
Edinb. Phil. Mag. l.c. p. 391;  
Sc. Prodr. 7, p. 32.

Chaetanthera (Tylloma) pusilla,  
Hook. & Arn. in Comp. to Bot.  
Mag. 1, p. 106.

Aldumatea chilensis, Kunze in  
Gay, Fl. Chil. 3, p. 322, t. 38.

Oriastrum chilense, ~~Kunze~~ Wedd.,  
Chlor. And. 1, p. 30.



Hab. Andes of Chili above  
Santiago.

(also) This interesting little plant  
is now well illustrated in the  
Flora Chilena. I have only  
to add that the pappus of the  
<sup>generally of two or three caducous bristles,</sup>  
ray ~~is~~ sometimes wholly wanting;  
~~The fertile achenia are pyriform,~~  
~~that of the fertile or disk-flower is nearly unispinal, the bristles~~  
~~united into a ring.~~  
The pappus is finer and softer  
than that of the original spe-  
cies of Oriastrum, but it is not at  
all worth while on this account to  
keep up Adumata as a section.  
The fertile achenia are pyriform: the pap-  
illae of their surface, when soaked, swell  
into a jelly, and then the achenia appear  
to be glabrous.

Plate      B.      Oriastrum Chilense;  
natural size. Fig. 1. A leaf. 2. Head detached.  
3. Ray-flower, without pappus. 4. ~~disk~~ A disk-  
flower. 5. Embryo. — The details magnified.

NW. (Tab. )

3. Oreastrum cochlearifolium, Sp. L

O. pulvinatum, laxe <sup>arachnoideo-</sup>~~arenoso-~~ la-  
natum; foliis in caulis brevibus  
~~lax~~ confertim imbricatis sessil-  
ibus <sup>crassis</sup> obtusissimis muticis dor-  
so mox glabratis, intus sub-  
marginis incurvo concavis lanu-  
ginosis, inferioribus oblongis, su-  
perioribus spatulatis capitula-  
rum sessile arcte rosulato-  
cingentibus; involucri squamis  
omnibus scariosis, apice radi-  
ante colorato ovato-lanceola-  
to acuto rigidiori; pappi  
setis capillaribus rigidis basin  
versus parce barbellatis su-  
perne <sup>tere</sup> laevibus.

Hab. Alparmarca in the  
high Andes of Peru.

A remarkable and very distinct species, <sup>of *Oriastrum*</sup> ~~of this genus~~, stems and interesting from its extending the range of the genus further north. <sup>or radical branches,</sup> Stems, as in its congeners, usually several in a cluster from a slender annual root, barely an inch long, densely clothed with appressed leaves, especially towards the nearly included head, around which they are closely imbricate-clustered. The leaves <sup>of a</sup> are thick and probably coriaceous-fleshy consistence, nerveless and veinless, blunt and muticous, and with a somewhat incurved callous margin, soon glabrate on the back, but the inner face lanuginous with implexed cobwebby wool, those toward the base of the stems are only 2 or 3 lines long,



and oblong in shape, and strictly sessile: the upper ones gradually become ~~3~~ 3 to 5 lines long, and spatulate <sup>or spoon-shaped,</sup> but the more or less narrowed lower portion cannot be termed a petiole. The head resembles that of *O. Chilense*; the brownish radiant tips of the scales of the involucre considerably exceeding the flowers. The flowers being young it is uncertain whether the female ligulate flowers are sterile; <sup>perhaps</sup> they ~~probably~~ are, although their style appears ~~rather~~ more normal, and is manifestly bidentate at <sup>and the ~~the~~ waxy bears a good orifice.</sup> the apex. Their corolla has a linear ligule, which is absolutely tridenticulate at the apex, and at its base on the inner side two minute teeth represent the other

lip. Disk-flowers as of the genus, but the ovaries apparently glabrous. Pappus nearly the same in ray and disk, of about two series of slender, capillary, but rigid bristles, which slightly cohere with each other at the base, the lower part ~~delicately~~ a little thicker and delicately and sparsely barbellulate, the upper not at all dilated, smooth or obsoletely denticulate under a good lens. Receptacle plane. Mature achenia unknown.

Plate C. Eriastrum cochleari-  
folium: a plant of the natural size, Fig. 1. A leaf, inside view. 2. A scale of the involucre. 3. A ray-flower. 4. A disk-flower. 5. The same displayed. 6. A stamen. 7. A bristle of the pappus. The details variously magnified.

Leria, Seb.

1. Leria nutans, Seb.

2. Leria integrifolia, Cass.

Stat. Brazil, in marshes at the base of the Organ Mountains, near Rio Janeiro.

Macrachenium, Stok.f.

1. Macrachenium gracile, Stok.f. (Tab.)

Macrachenium gracile, Stok.f.  
Fl. Antarc. 2, p. 321.

Stat. Orange Harbour, Luigia.

This rare plant, before known only from <sup>the</sup> ~~a~~ single



specimen, collected at Port Famine  
by Capt. King, on which Dr.  
Hooker founded the genus, was  
gathered abundantly and in good  
fruiting condition by our Natu-  
ralists. There is little, however,  
to be added to the account of  
the genus. The flowering stem  
and radical leaves rise from a  
rather slender, scaly, and perhaps  
creeping rhizome, and is slender  
and scapiform, <sup>from nine to twenty inches high,</sup> simple or sparing-  
ly branched ~~towards~~ ~~at~~ the base, ~~where~~  
above which it commonly bears  
one or two alternate leaves, the  
long upper portion naked, mono-  
cephalous. Whole surface of the  
plant floccose-lanate, but the  
upper surface of the leaves gla-  
brate, the lower fulvous-canes-  
cent with the woolly coat.  
Petioles of the radical leaves slender,

3 to 6 inches long; those of the  
Carline leaves usually margined  
or winged, often dilated and  
clasping at the insertion; the  
blade oblong or ovate-oblong in  
outline, deeply pinnatifid into  
from 5 to 13 lobes, which are  
oblong or oval, obtuse, entire  
or nearly so, or the lowest  
bearing one or two lobes or  
coarse teeth. Scales of the  
simple involucre 12 to 14, linear,  
gradually acute or acuminate, <sup>a few of</sup> the  
exterior shorter. Flowers numer-  
ous, all perfect and alike. Re-  
ceptacle strongly convex, naked.  
Corolla ~~4 to 5~~ lines long; the tube  
nearly filiform; the lips short,  
a little more than <sup>long, and of equal</sup> a line <sup>in</sup> length;  
the outer lip oval, <sup>more or less</sup> ~~obtusely~~ three-  
lobed, the inner parted into two.

narrowly linear divisions. Stamens borne on the upper part of the tube: filaments short, slender, smooth: tails of the anthers rather short, ~~setose~~, nearly naked. Style filiform; the branches half a line long, oblong-linear, flat, obtuse, naked, the margins obscurely papillose, ~~the~~ ~~an~~ inappendiculate. Achenia slender, from  $3\frac{1}{2}$  to 6 lines long, the central ones longest, seriate, glabrous, many-ribbed, moderately tapering to the summit, but not truncate, the cell extending to the very apex. Pappus of about 35 slender plumose bristles, ~~in~~ somewhat in two series, rather longer than the achenia, fulvous.



As the style of this plant is rather that of the Mutisiaceae than of the Nassauviaceae, and the relationship to Chabrea is hardly manifest, I should refer the genus to the former group.

Plate Macracherium gracile 5 of the natural size. Fig. 1. Re-  
ceptacle, <sup>with a full-grown acheneum,</sup> 2. A flower, 3. Corolla and  
stamens displayed. 4. A stamen. 5. Sum-  
mit of the style. 6. A bristle of the pappus.  
The details <sup>variously</sup> magnified.

Chabrea, Dc.

1. Chabrea dancifolia, Wedd.

Chabrea dancifolia, Wedd. Chel.

And. 1, p. 35, cum descr. Don  
C. laciniata, Wedd. l. c. p. 34,  
t. 10.

Ptilurus dancifolius, Don  
in Linn. Trans. 16, p. 38.

Hab. High Andes of Peru,  
between Basa Banca and Buthuay.

The specimens so completely  
accord with Don's character of  
Ptilurus dancifolius, except as to  
the bristles of the pappus, which  
are not imbricated (but connate)  
at the base, that I do not have  
little hesitation in referring the

Discrepancy to an error of observation, and in preserving the original specific name.

Jungia, Linn. f.

Jungia ferruginea, Linn. f.

Stab. Obajillo, Peru.



Jungia, Linn. f., Less.

1. Jungia paniculata.

fruticosa;  
J. foliis subtus tomentosis, to-  
mento albido implexo; capit-  
ulis <sup>conferte</sup> cymosis plerisque pedicul-  
atis multifloris; involucri  
squamis ~~involucri~~ interioribus  
paleisque floribus <sup>"luteis"</sup> pappo que  
subdimidio brevioribus; ache-  
nis pilosiusculis. — Variat peti-  
olis <sup>basibus</sup> quasi stipulatis vel nudis.

Drumerilia paniculata, DC.

Mem. Lab. p. 14, t. 16; bass.  
Opusc. 1, t. 12.

Jungia ferruginea, Don in Linn.

Trans. 16, p. 225; Less. in Lin-  
naea, 5, p. 37; <sup>Syn. p. 415</sup> DC. Prodr. 7, p.  
54, non Linn. f.

J. spectabilis, Less. Syn. p. 415;  
DC. Prodr. l.c., <sup>non</sup> Don.

Itab. Obrajillo, Peru; in  
vicinity of which it was collected  
by Ruiz and Pavon,  
by ~~Cockshanks~~, and ~~by~~ Matthews.  
Gathered also in Peru ~~probably~~ <sup>doubtless</sup> by  
Joseph Jussieu, and by Donbey,  
whose specimens in the Paris Mu-  
seum are, however, marked "Chili".

"A shrub, from three to five  
feet high", according to a memo-  
randum of Dr. Pickering; the  
petioles not stipulate or appen-  
daged, in which respect they  
accord with Don's description  
and with Cassini's figure. But  
such appendages are inconstant.  
— Although nearly related to  
Jungia ferruginea, yet I suppose  
that Don was wrong in referring  
the plant he has well described  
to that of the younger Linnaeus.  
Also, that the original character

of Jungia is not so incorrect  
as has been thought. I pre-  
sume (although I cannot now ~~ver-~~  
verify the supposition) that Lin-  
naeus received ~~the plant~~ his Jungia  
feruginea, along with most of the  
~~new~~ <sup>described</sup> plants from "America Men-  
doni" in the Supplement, from  
Mutis, — therefore probably from  
~~Santa Fe de Bogota~~, whence ~~I~~  
have from Mr. Solton what is  
manifestly the Linnaean species.  
I have the same species from  
the base of Pichincha, gathered  
by Mr. Conthony, and I think  
that Prof. Jameson has also sent  
it to Sir Wm. Hooker. In this  
species the individual heads con-  
tain from five to ten flowers only,  
and ~~these~~ are commonly so closely  
clustered in fascicles as to explain,  
if not to excuse, the view taken by the



junger Linnaeus of a compound  
capitulum. The fructiferous scales  
and paleae <sup>and erect</sup> are more strictly involute than  
in the Peruvian *J. paniculata*,  
and longer, so that the pappus  
barely exceeds their summits.\*  
~~Debandollis~~ ~~Dum~~ Lessing and  
Debandollis (but not Doris) *J.*  
spectabilis is the same as ~~De~~

---

\* *Jungeria ferruginea* (Linn. f.  
suppl. p. 58, 390): scandens vel sar-  
mentosa; foliis 5-9 lobatis subtus  
pennoso-villosis; capitulis 5-10-  
floris glomeratis, glomerulis in  
corymbis paniculatos thyrsosve  
congestis; squamis involucri inter-  
ioribus paleisque arcte involutis  
flores ~~pappumque~~ et pappum  
subaequantibus; acheniis glabris.

Candolle's Dumerilia (or Jungia)  
paniculata without stipular  
appendages.

2. Jungia axillaris, Spreng.

Dumerilia axillaris, Lag. ex

Ob. Mem. Lab. p. 72, t. 15.

Jungia axillaris, Spreng. Syst.  
Veg.<sup>5</sup>, (Ber. Post.) p. 301; Ob.  
Prodr. 7, p. 55.

Ital. Peru <sup>below</sup> ~~between~~ Obrajillo  
and Lima, <sup>where it was also collected by Matthews.</sup>  
Heads often solitary  
at the end of the peduncle termi-  
nating the branchlets. Corollas  
"purple" or rose-color, as they evi-  
dently were in a glabrate form of  
this species collected by Gay in the  
department of Cusco.

Perezia, Lag., Less., Wedd.

Clarionea & Stomvianthus, DC.  
Mem. Lab.

Perezia, Drozia & Platycheilus,  
Acontia, Clarionea & Stomvianthus, Don.  
Perezia & Dumerilia, Less.

Perezia, Clarionea, Stomvianthus,  
Acontia, ~~Don~~ Dumerilia, &  
Prunostia sect. Thelocarpaea, DC.  
Prodr.

Perezia, Gray in Pl. Fendl. p. 111,  
& Pl. Wright. 1, p. 126.

Trixis spec. Schult & Bip.  
in Sem. Bot. Sterald, p. 314.

I cannot at all agree with  
Dr. Schult, who refers the Mexican  
and North American species of  
this extended genus to Trixis. The  
involucre, habit, &c. will distinguish



The latter, Trixis has a uniseriate involucre, the scales all of the same length, with or without a circle of spreading, mostly foliaceous bracts at the base of the head. In Pereria even the fewest-flowered species have a gradately imbricated involucre; ~~the exterior scales~~ and the achenia are not rostrate.

1. Pereria Magellanica, Lag.

Pereria Magellanica, Lag. Annon.  
1, p. 31; Cass.; Less. in Linnaea,  
5, p. 23; Hook. & Arn. in Comp.  
Bot. Mag. 1, p. 34.

Pordicum Magellanicum, Linn. f.  
Suppl. 1, p. 376; Vahl. in Act.  
Hafn. 1, p. 10, t. 4.

Clavionea Magellanica, Stb.  
Mem. Lat. p. 65, t. 3, &  
Prodr. 7, p. 61; Hook. f. Fl.  
Antarc. 2, p. 321, t. 111; Kunze  
in Gay, Fl. Chil. 3, p. 406.

Clavionella Magellanica, Mont.  
& Lacq. Voy Pol. Sud, t. 10,  
fide Hook. f.

Stat. Orange Harbour, Zuegia.

2. Pereria lactucoides, Less.

Pereria lactucoides, Less. in  
Linnaea, 5, p. 22, & Syn. p. 413.  
Perdicium lactucoides, Vahl, l. c.

p. 10, t. 5.

Aster Magellanicus, Lam. Ill. t. 681,  
f. 3.

Clavionea glaberrima, Bass. Opusc.  
2, p. 165.

Clammia lactucoides, Don in Linn.  
Trans. 16, p. 206.

Chetanthera Magellanica, Spreng,  
Syst. 3, p. 503.

Stomvianthus Magellanicus,  
Dc. Prodr. 7, p. 65; Hook. f.  
Fl. Martae. 2, p. 322.

Hab. Orange Harbour; both  
the dwarf and the tall states,  
and intermediate specimens.

3. Perezia Doniana, Less.

Perezia Doniana, Less. l.c.;

Nodd, Chlor. And. 1, p. 38.

P. Beckii, Hook. & Arn. in Comp.

~~the~~ Bot. Mag. 1, p. 34.

Claronia recurvata, Don in ~~Linn.~~

Linn. Trans. 16, p. 206, excl. syn.

Stomvianthus Beckii, Hook. f. l.c.

H. Donianus, Kemy, in Gay Fl. Chil. 3, p. 422.



Stat. Sand-hills at the  
mouth of the Rio Negro, North  
Patagonia. Sterile shoots only  
collected with a single deflorate  
head.

4. Perezia carthamoides, Hook. & Arn. <sup>l.c.</sup>

Clarionea carthamoides, Gill.;  
Don.; Ob. Prodr. 7, p. 11; Deless.  
Sc. Sel. 4, t. 93.

Stat. Andes of Chili above  
Santiago.

5. Perezia virens, Hook. & Arn. <sup>l.c.</sup>

Stat. Andes of Chili above San-  
tiago, with the preceding.

6. Perezia caulescens Wedd.

Perezia caulescens, Wedd. Cher.  
Ind. 1, p. 39, t. 10.

Stat. High Andes of Peru  
at Casa Barcha.

Heads sessile in the crown  
of leaves, about the size of those  
of P. pinnatifida, of which it  
is probably a more condensed and  
<sup>glabrous</sup> variety. The state of the speci-  
mens does not permit an exam-  
ination of the receptacle.

7. Perezia nivalis, Wedd. l.c.

Var.  $\beta$ . foliis pinnatilobatis vel  
sinuato-dentatis sublyratis.

Itab. High Andes of Peru  
at Alpanmarca. Leaves ~~much~~  
~~less deeply lobed than~~ not pin-  
natisect, nor even deeply pin-  
natisect in the scanty specimens;  
but otherwise the plant accords with  
the characters of P. nivalis.

8. Perezia pungens. Less. l.c.

Itab. Andes of Peru near  
Baños: dwarf or depauperate  
specimens.

9. Perezia multiflora. Less. l.c.

Itab. Andes of Peru near  
Abrajillo.



Trixis, P. Browne.

1. Trixis frutescens, P. Browne, var. pubens.

Trixis frutescens, var. latifolia &  
var. denticulata, Less. Syn. p. 414.

Pendicium cacalioides, H. B. K. M.  
Gen. & Sp. 4, p. 154.

Trixis paradoxa, Cass. Opusc.

2. p. 110 (fide spec. Dombey, in  
Herb. Mus. Par.); Ob. Prodr. 7,  
p. 67.

T. cacalioides, Don in Linn. Trans.  
16, p. 187; Ob. l.c.

T. Neesana, Ob. Prodr. 7, p. 67.

Hab, Peru, in the vicinity of  
Lima, Yanga, and Obajillo.

Lessing has, I doubt not, taken  
a correct view of the extent of Trixis  
frutescens; but his distribution  
of the forms is not so good. The

typical or original form, common  
in the West Indies, is glabrous or  
nearly so throughout. It varies,  
<sup>does</sup> as the pubescent form (of which  
the principal specimens are given  
above) with entire or serrulate,  
acute or obtuse leaves. The two  
run together, and both into ~~narrow~~  
~~row~~ lanceolate-leaved forms; the  
smooth one into the var. angustifolia,  
Dc., the silky-pubescent or  
pubescent one, ~~into~~ towards the  
northern geographical limits of the  
species, into ~~the~~ forms which, in  
the second part of Planta Wrightiana,  
(no. 1299, coll. Wright.)  
I had confounded with T. angustifolia,  
Dc.

This Trixis angustifolia, Dc.,  
which is probably a narrow-leaved form  
of the older T. corymbosa, Don, is known  
by its linear-lanceolate scales of the  
involucre gradually tapering to a point.

The margins of the leaves are commonly entire and revolute (as in Berlandier's no. 1284 and 1353, Guss's no 566 (while his no. 840 is *T. pubescens* var. *pubens*, with obtuse scales), and Wright's no. 413); but they are plane and sharply denticulate or repand-toothed, ~~in spec~~ as well as broader, in specimens of Thunberg and Schott, which were referred to *T. pubescens* in the Botany of the Mexican Boundary Survey, p. 103.

*Trixis bracteata*, Hook. & Arn. is probably not different from *T. longifolia*, Don.



Nassauia, Commas., Widd.

1. Nassauia marcolens, Willd.

Stat. Grange Harbour, Freigia;  
on the mountains,

2. Nassauia ramosissima, Stb.

Stat. High Andes of Chili, above  
Santiago. (This, rather than the next  
should be Doris N. marcolens.)

3. Nassauia Bummingii, Stock. & Arn.

Nassauia Bummingii, Stock. & Arn. in  
Comp. Bot. Mag. 1, p. 37.

N. pyramidalis, Meyen, Reise 1,  
p. 356; Walp. in Rel. Meyen, p.  
288; Widd. Chlor. And. 1, p. 54.

N. macracantha, Stb. Prodr. 7, p. 49.

Kemig. in Gay, Fl. chil., 3, p. 342; - - -  
Wedd. l. c.

N. spicata, Kemig. in Gay, Fl. chil.,  
3, p. 343; Wedd. l. c. p. 54, t. 51.

Hab. Chili, in the Andes above  
Santiago.

4. Nassauia (Mastigophorus) Kemigana,  
<sup>Wedd.</sup>

Nassauia (Mastigophorus) Kemigana,

Wedd. Chlov. And. 1, p. 51, t. 12.  
Calopappus acanthifolius, Kemig. in Gay, Fl.  
chil., 3, p. 297.

Hab. Andes above Santiago,  
Chili; a single, imperfect specimen,  
mingled with those of the preceding  
species.

5. Nassauia (Mastigophorus) pygmaea, Hook.  
<sup>W. & A.</sup>

Nassauia pygmaea, Hook. f. Fl.  
Antarc. 2, p. 319.

Triachne pygmaea, Cass. Bull. Philom.  
& Dict. Sci. Nat.; Sb. Proc. 7, p. 50.

Stat. Orange Harbour, Fregia,  
Two forms; one with the leaves  
slightly, the other strongly striate-  
nerved.

b. Nassauia (Panargyrum) ~~acutata~~  
oligocephala, Wedd.

Nassauia (Panargyrum) oligocephala,  
Wedd. Chlov. And. 1, p. 53.

Panargyrum uniflorum Gill. & Don  
in Edinb. Phil. Mag.; Hook. &  
Arn. in Comp. Bot. Mag. 1, p. 37.

P. oligocephalum, D.C. Prodr. 7, p.  
54; Kuny in Gay, Fl. Chil. 3,  
p. 367.

Stat. Andes of Chili, above San-  
tiago.



Triptilium

Triptilion, Ruiz & Pav.

1. Triptilion spinosum, Ruiz & <sup>Pav.</sup>

Hab. Chili, in the vicinity of  
Valparaiso.

Strongyloma, Dc.

1. Strongyloma axillare, Dc.

Triptilium axillare, Lag. in Spreng. Syst. 3, p. 506.  
Nassauia axillaris, Don in Edinb.

Phil. Mag. ann. 1832, p. 390.

Acanthophyllum axillare, Hook. &

Arn. in Comp. Bot. Mag. 1, p. 37.

Strongyloma axillare, Dc. Prodr. 7, p.

52; Kemy in Gay, Fl. Chil. 3,

p. 360, t. 40; Wedd. Chlor. And. 1,

p. 54, t. 13.

Hab. Andes of Chile above  
Santiago.

Polyachyrus, Lagasca.

1. Polyachyrus sphaerocephalus, Don.

Polyachyrus sphaerocephalus, Don  
in Linn. Trans. 66, p. 230.

P. echinopsoides, DC. Prodr. 7, p. 53.

Bridgesia echinopsoides, Hook. Bot.

Misc. 2, p. 222, t. 92.

Polyachyrus sphaerocephalus, Hook.

& Arn. adn. in Comp. Bot.

Mag. 1, p. 36.

Hab. Andes of Peru below Cul-  
bray; in the same district where  
it was collected by Bouché (from  
whose specimens it was  
illustrated by Sir Wm. Hooker).

and probably by Ruiz and Pavon, and by Dombey, although specimens of the latter's collecting in the Paris Herbarium are ticketed as from Chili, as is the case with many of Dombey's Peruvian plants.



Subord. III. Liguliflora,

Tolpis, Adans., Db.

1. Tolpis (Schmidtia) filiformis, <sup>Db. ex Schultze Bip.</sup>
2. Tolpis (Schmidtia) fruticosa, Schrank.
3. Tolpis (Schmidtia) macrochira, Db.

Hab. Madeira; the latter on Pico Ruivo.

Hypochaeris, Vaill., Db.

1. Hypochaeris radicata, Lin.

Hab. St. Helena; doubtless introduced from Europe.

2. Hypochaeris glabra, Linn.

Stat. Bay of Islands, New Zealand; probably introduced from Europe and very local, as no other collectors in New Zealand have met with it. Also, which is equally remarkable, a single and depauperate specimen was picked up at ~~Hunter's River~~, New South Wales, upon the excursion from Sydney to Hunter's River. It can hardly be Endlicher's Cycnosensis australis, for the exterior achenia are beakless. The species seems to affect the Southern Hemisphere, having also established itself at the Cape of Good Hope.

Achyrophorus, Scop.

1. Achyrophorus arenarius, DC.

Hypochaeris arenaria, Gand.!  
in Ann. Sci. Nat. 5, p. 103, &  
Bot. Freyc. Voy. p. 134, 461.  
H. minima, D'Urv. in Mem.  
Ac. Linn. Par. 4, p. 609.

Achyrophorus arenarius, DC.  
Prodr. 7, p. 95; Stork. f. Fl.  
Antarc. 2, p. 323, t. 112, fruct.  
A. Webbii & A. coronopifolius,  
Schultz Bip. Hypochaer.?  
A. microphyllus, Remy in  
Gay, Fl. Chil. 3, p. 449.

Var. simplex, monocephalus,  
involucro nigrescente apice =  
que scapi pilis brunneis  
nigrescentibus hispidis.



Ital. Orange Harbour and  
Good Success Bay, <sup>Chile</sup> ~~the~~ variety with dark hairy involucre. High Andes of Chile  
above Santiago, a dwarf state, with glabrate involucre, nearly  
*A. microphylla*, but with deeply pinnatifid leaves.

The <sup>Chilean</sup> specimens certainly  
belong to Gandichand's species,  
who had himself noted that  
specimens were often simple and  
monocephalous, as is the case  
with all of ours. To the syn-  
onyms adduced *A. tenuifolia* <sup>and some others</sup>  
may probably be added.

2. *Achyrocephalus apargioides*, DC. l.c.

*A. apargioides* & *Lessingii*, Schultze Bip. <sup>Chil. & New. Achyroceph.</sup> Hypo-  
*Porcellites apargioides*, Less. in  
Linnaea, b, p. 102.

*Seriola apargioides*, Less. Syn. p.  
131; Hook. & Arn. in Comp. Bot.

Mag. 4, p. 31. ~~pro parte~~ <sup>p. 388</sup>  
*Oreophila apargioides*, Don in Edinb. Phil. Mag. ann. 1832, 1  
(*microoides*) (Valparaiso.)

Ital. Chile, in the vicinity of

Small reliance can be placed upon the beak of the achenia, especially of the marginal ones, and less upon the hairiness or smoothness of the foliage and involucre. In the specimen of the present collection the marginal achenia are smooth, pale, five-grooved, short and thick, the apex abruptly contracted into a very short beak; but all the inner ones, although pubescent, are long-beaked, like those of Lessing's and of Kuny's A. asparagioides. Kuny's A. tenuifolius may also be referred to this species.

Schultz Bip.

3. Achyrocephalus Chillensis, <sup>1</sup>

Aspargia Chillensis, H.B.K.,  
Nov. Gen. & Sp. 4, p. 3.

Hab. Andes of Peru, between  
Culluay and Obrajillo.

4. Achyrophorus Gardneri, <sup>Schultz Bip.</sup>

Achyrophorus Gardneri, Schultz  
Bip. Rev. Brit. Achyr. in  
Jahresb. Pollich. 1859, no. 38.  
~~Achyrophorus~~ Brasilensis, Gardn. in  
Hort. Lond. Jour. Bot. 4, p. 128,  
non Less.

Hab. Brazil, in the Organ  
Mountains near Rio Janeiro;  
in marshes.

Probably distinct from any of the <sup>(various)</sup>  
forms comprehended by Lessing and  
by Hooker and Arnott under their  
Brasilensis. But the species needs  
a new character; for our speci-  
mens, which compare <sup>(pretty)</sup> well with  
Gardner's, have slender beaked ~~achyr~~



achenia, and short-petioled or even sessile leaves. These are nearly all radical, and vary in different specimens from <sup>oblong</sup> line or to oval, from denticulate or repand to pinnatifid, from sparsely hairy on the midrib to glabrous throughout. Heads 6 to 8 lines long, narrow. Involucre minutely tomentulose-pubescent when young, at length glabrate; the scales nearly all narrow-linear, obtuse. Beak of the achenia filiform, 2 or 3 lines long.

5. Achyrocephalus chondrilloides

A. glaucescens undique glaberrimus; caule folioso stricto mono-oligocephalo; pedunculis elongatis; foliis subcarnosis linearilanceolatis

integerrimis seu obsoletissime  
denticulatis, superioribus sub-  
amplexicaulis, imis in petiolum  
basi dilatatum sensim angus-  
tatis; involveri squamis lan-  
ceolatis subacutis.

Oreophila Chondrilloides, Don  
Muscr. & in Hab. Stork,  
Seriola Brasilensis, <sup>subvar. b.</sup> Stork, & Am.  
in Comp. Bot. Mag. 1, p. 30.

Hab. Rio Negro, North Patu-  
gonia, in saline soil.

Our plant is just that of  
Gillies from the Andes of Mendoza,  
and of Eichls from the Patagonian  
coast, and it appears to be a  
very well-marked species, Root  
fusiform. Stem from one to three

feet high, more or less leafy to the  
branches or peduncles. Sometimes  
simple and moncephalous, but  
commonly dividing into three or four  
peduncles or nearly <sup>and simple</sup> naked branches,  
from 3 to 9 inches long, terminated  
with a rather large head. Involu-  
cre 8 or 9 lines long; the outer  
scales triangular-lanceolate, acute,  
the inner linear-lanceolate ~~from~~  
~~a broadis rather~~, tapering from the  
base, as long as the disk. Ache-  
nia not seen. Leaves 3 to 5 inches  
long, 3 or 4 lines wide, thickish,  
glaucescent, nearly veinless; the  
lowermost tapering to both ends,  
the uppermost broadest at the  
partly clasping base.



b. Achyrophorus sessiliflorus.

Styprocharis sessiliflora & (var.  
vegetior prodroceph.) son-  
choides, H. B. K., Nov. Gen. &  
Sp. 4, p. 2, t. 301.

Oreophila sessiliflora, Dru in  
Linn. Trans. 16, p. 178.

Achyrophorus sessiliflorus. & A.  
sonchoides, DC. Prodr. 7, p. 95.

A. Quintensis, Schult. Bip. Sty-  
prochar. p. 92; Nodd. Chelcr.  
Ind. 1, p. 219, t. 41.

A. Quintensis, Humboldtii, galliflorus.  
Schult. Bip. Rev. brit. Achyr. <sup>l.c.</sup>  
p. 18-20.

(Var. β. barbatus; minor; involu-  
cri foliolis exteriori phyllis ex-  
terioribus superare pl. m. selosis.  
A. barbatus, Schult., Rev. brit.  
l.c.

Var. *N. subuncinata*: foliis  
runcinatis dentatis vel incis  
marginibus saepius setuloso-cili-  
atis; involucri phyllis exteri-  
oribus oblongis <sup>seu</sup> ~~obovatis~~ obovatis  
dorso plerumque setosis vel  
nudis. — Subvar. 1. involucri  
tomentoso; 2. foliis rhombico-ovatis  
largius petiolatis.

*A. setosus*, Wedd. Chlon. And.

1, p. 220; Schultze Bip. l.c.

*A. eriolanus*, Schultze, Bip.

l.c.; Wedd. l.c. (involucri

pl. m. tomentoso).

Stat. Crest of the Andes at  
Alpamarca, Peru. Vars.  $\beta$ . &  $\gamma$ . (with  
rhombico-ovate leaves) in the  
Andes above Baños; and a speci-  
men of the latter with tomentulose  
involucri between Casa Blanca  
and Bulleray.

From a view of numerous specimens of ~~diff~~ various collections I cannot doubt that all the above are forms of one species, which varies greatly in the size of the head, and the breadth, &c. of the involucral scales. I suspect that it includes A. Meyenianus; and perhaps even the following is an extreme variety.

7. Achyrophorus stenocephalus, <sup>Gray.</sup>

Oreophila taraxifolia, <sup>ae.</sup> Meyen & Walp. Rel. Meyen, p. 291.

Achyrophorus taraxacoides, Walp.

~~Ann. Bot.~~ <sup>(Chlor. Ind. p. 221.)</sup> p. 335; Wedd. &

<sup>(Gray, mscr.)</sup> A. stenocephalus & taraxacoides  
Wedd. l. c. t. 41.



Var. *Y. eriolaemus*!

Hub. High Andes of Peru at  
Casa Blanca, collected in the same  
district by McLean and by Matthews.

Apparently common in the  
high Andes of Peru and Bolivia;  
distinguished by its small heads,  
with a narrow, cylindrical, and  
comparatively few-flowered involucre.  
<sup>The leaves vary from dentate to runcinate.</sup>  
The ligules, according  
to Middell, are pale blue or whi-  
<sup>Achenia not seen.</sup> tish. Taraxacifolia was the original  
specific name of Meyer, which  
Nulps, perhaps accidentally, changed  
to Taraxacoides, <sup>this</sup> ~~which~~ name both  
Middell and Schultze cite under  
A. Meyenianus as well under the  
present species, showing some con-  
fusion, to avoid which I have re-  
tained the far more appropriate  
name I had originally imposed.

# Picris, Lin.

## 1. Picris hieracioides, Lin.

Hub. Bay of Islands, New Zealand;  
the P. attenuata of A. Cunningham,  
with a stouter form. Hunter's River,  
New South Wales; the P. barbarorum  
of Lindley and P. squarrosa of  
Steetz.

Helmintha aculeata, DC. and  
Thrinia hispida, Roth, were collected  
at Madeira. The ray-achene of the former  
are incurved, embraced by the subtending scales of the  
involucre, and smooth.

## Taraxacum, Staller,

### 1. Taraxacum Dens-leonis, Desf., var. lanceolatum, Hook. f.

Hub. Orange Harbour and Good  
Success Bay, Fregia; with both deeply  
and obscurely pinnate leaves.



Picrosia, Don.

1. Picrosia longifolia, Don. (Tab. )

Hab. Rio Negro, North Patagonia.  
Andes of Peru near Baños.

Picrosia longifolia, Don in Linn. Trans.  
16, p. 183; Less. Syn. p. 143; Hook.  
& Arn. <sup>in</sup> Comp. Bot. Mag. 1, p. 32, & 2,  
p. 42; DC. Prodr. 7, p. 251; Kemy in  
Gay Fl. chil. 3, p. 464.

Tragopogon pitillarioides, Less.  
in Linnaea, 6, p. 101.

The pappus is fulvous and  
soft, not fragile; and the nearest af=  
finity of the genus appears to be with  
the North American Pyrrochloa.

(Stamen. 3.)

5. Section of achenium.  
6. Embryo.

Plate Picrosia longifolia, Fig. 1.  
A flower, 2. Summit of style, 4. Receptacle with an achen=  
nium and pappus, (The details variously magnified.)

Sonchus, Lin.

1. Sonchus oleraceus, Lin.

Hab. Lord Auckland Islands,  
Bay of Islands, New Zealand, Rio  
Janeiro. Rio Negro, North Patagonia;  
doubtless introduced from the Old  
World. Seemann found it at the  
Fiji Islands.

2. Sonchus asper, Vill.

Hab. Sandwich Islands, in the vi-  
cinity of Honolulu; doubtless im-  
ported.

3. Sonchus tenerrimus, Lin.

Hab. Baños, Peru. The same  
as Nuttall's S. tenuifolius, from Cali-  
fornia, probably doubtless introduced  
from Spain.

4. Sonchus squarrosus, DC.

Hab. Madeira, east of Funchal,  
- Achenia minutely striate-rugulose  
transversely.

Microhynchus nudicaulis, ~~Less.~~  
Less., and Rhabdotheca spinosa, Willd.,  
were picked up at St. Jago, Cape  
Verde Islands.

Andryala varia, Lowe, in  
several of its marked varieties, was  
gathered at Madeira.

Hieracium, Linn.

1. Hieracium frigidum, Wedd.

Hieracium frigidum, Wedd. Chlor.

And. 1, p. 225, t. 42.

Hab. Andes of Peru above Obrajillo;  
depauperate specimens.



2. Hieracium eriocephalum, <sup>L.C.</sup> Wedd.

Oxoseris? eriocephala, Benth. Pl.  
Hartw. p. 211, ad Hieracium ref. p. 357.

Hub. Andes of Peru above Baños.  
Also collected by Matthews. This is  
referred to H. erianthum, H.B.K. by  
Schultz Bip. in Bonplandia for 1851, p.  
173.

~~2. Hieracium erianth~~

Fitchia, Hook. f.

1. Fitchia nutans, Hook. f.

Fitchia nutans, Hook. f. in Land.

Jour. Bot. 4, p. 640, t. 23, 24.

Hub. Tahiti, Society Islands,  
at the elevation of 3000 feet; a sin-  
gle specimen gathered by Professor  
Dana.

This most noble and curious  
arborescent Bichoracea was known  
only from Elizabeth Island, lat. 26°,  
long. 125, about 25 degrees of longi-  
tude distant from Tahiti towards South  
America, where it was detected by  
Mr. Cuming. The capitulum (  
which is fully two inches in dia-  
meter) being male in our single  
specimen, as in that of Cuming,



~~I can~~ add nothing to Dr. Hooker's  
illustration of the genus. The  
female plant is a desideratum.  
Professor Dana's memorandum  
mentions that the plant is a  
tree, with yellow flowers. The  
<sup>two</sup> setae of the pappus of the sterile achen-  
ia, are better called aristae.

The following Compositae need only  
to be mentioned:—

Phagnalon saxatile, Chrysanthemum  
pinnatifidum,

as picked up at Madeira.

Dracopis amplexicaulis, Cass. was  
gathered at Rio Janeiro;—surely an  
escape from gardens.

Anthemis arvensis was gathered  
on the Rio Negro, North Patagonia,  
and near Valparaiso; an adventive  
European weed.

Maruta botula: Bay of Islands,  
New Zealand; "introduced, in waste grounds,  
but rare." As Dr. Hooker does not  
mention it in his Flora of New  
Zealand, it is probably a new  
comer, but one very likely to estab-  
lish itself, as it has in the older United  
States, where it is the very commonest weed—

side used.

Lasiospermum brachyglossum,  
Hb. and Manasia trifurcata, were  
picked up at Cape Town, Cape of  
Good Hope.



Styliaceae

Gordaniaceae

Campylopusaceae

Lobeliaceae

Ord. Stylidiaceae.

1. Stylidium, Swartz.

1. Stylidium graminifolium, Swartz.

2. Stylidium lineare, Swartz.

Tab. New South Wales, near Sydney, &c.; two familiar Australian species.

2. Forstera, Linn. f.

1. Forstera muscifolia, Willd.

Tab. Orange Harbour, Trinidad; where it abounds, in moss-like, pulvinate patches.

Ord. Goodeniaceae.

1. Goodenia, Smith.

1. Goodenia bellidifolia, Smith.

2. Goodenia stelligera, R. Br.

3. Goodenia paniculata, Smith.

4. Goodenia pinnatifida, Schlecht

5. Goodenia hederacea, Smith.

6. Goodenia obundifolia, R. Br.

7. Goodenia ovata, Smith.

8. Goodenia heterophylla, Smith.

Hab. Sydney, Woolungah, and



Muntio River, New South Wales,  
— To G. Helligera the G. armeria  
folia of Sieber and De Coudolle ap-  
pears to belong. The G. hederacea  
is the true plant, from which G.  
lanata is apparently distinct.

2. Selliera, var.

1. Selliera radicans, var.

Selliera radicans, var. 2c. 5. p.  
49, t. 474, DeVriese, Gooden. p.  
163; Hook. f. Fl. Tasman. 1. p.  
231.

S. repens, DeVriese, l. c. p. 230.  
Goodenia repens (Labill. Fl. N. H. l.  
t. 76) & G. radicans, DeV.  
Prodr. 7, p. 516.

Hab. Chili at Valparaiso. Bay of Islands,

New Zealand. Moolungy, New  
South Wales.

3. <sup>(Velleia)</sup>  
Nelleya, { Smith.

1. Nelleya paradoxa, R. Br.

2. Nelleya lyrata, R. Br.

Hab. New South Wales; the first  
at Sydney; the second on Hunter's  
River.

4. Dampiera, R. Br.

1. Dampiera oblongata, R. Br.

2. Dampiera stricta, R. Br.

Hab. Sydney and Hunter's River,  
New South Wales.

5. Scavola, Linm.

1. Scavola (Merkusia) maueolens, <sup>R. Br.</sup>

2. Scavola (Merkusia) microcarpa, Car.

3. Scavola (Merkusia) hispidula, Car.

Hab. New South Wales, at Sydney, Wollongong, and Hunter's River.

4. Scavola Lobelia, Linm.; <sup>Detmers</sup>

Scavola Karigië, Nahl. Synb. 3, p. 36; R. Br.; Ob. l.c. etc.

V. Leschenaultii, Ob. Prodr. 7, p. 506.

Hab. Coast of the Freeze, Samoa, Tonga, and of all the Coral Islands.



5. *Scorola sericea*, Forst.

*S. plumerioides*, Nutt. in Trans.  
Amer. Phil. Soc. n. ser. 8, p.  
252. (Var. *foliis amplis fere*  
*glabris*.)

Stat. Tonga and Samoan  
Islands. Wake Island, Sandwich  
Island; on the coast of Hawaii  
and of Oahu; the latter with  
nearly glabrous leaves.

6. *Scorola coriacea*, Nutt.

*S. puticosa*, decumbens; axillis  
*brevissime barbatis*; foliis <sup>velis</sup> par=  
carnoso-crassis obvalo-spa=  
thulatis in petiolum brevem  
attenuatis aveniis saepe retusis;

pedunculis axillaribus uni-  
(raro tri-) floris; calycis limbo  
truncato vel obscure quinque-  
lobo; corollae lobis <sup>linearibus</sup> ~~angustis~~ lan-  
ceolatis, alis angustis.

Var.  $\alpha$ . cinereo-puberula vel glabul-  
<sup>foliis integerrimis</sup>  
la; corollae extus glabra vel  
pilosula, ~~in~~ lobis intus pilo-  
so-barbatis.

Scavola coriacea, Nutt. in Trans.  
Amer. Phil. Soc. n. ser. 8, p.  
253.

Var.  $\beta$ . corollae intus imberbi extus  
foliisque glabris.

Var.  $\gamma$ . foliis cinereo-tomentulosis  
apice 3-5 denticulatis; corollae  
extus pubescente, lobis intus  
glabris.

Hab. Sandwich Islands. Var.  $\alpha$ .

On the shore of Kauai (Huai)  
Nuttall, and on the sand-hills  
of Maui. Var.  $\beta$ . Nihau, and  
var.  $\gamma$ . Molokai, Kemy.

A well-marked species,  
although varying <sup>as to</sup> ~~the~~ the pubes-  
cence, which even in the flowers  
is inconstant in ~~the~~ other species  
of the Sandwich Islands. Leaves  
an inch or less in length, inclu-  
sive of the petiole or attenuated  
base, thick, fleshy, and veinless,  
even the midrib obscure, rounded  
or retuse at the summit. Peduncle  
about half an inch long, or in  
var.  $\gamma$ . much shorter. Corolla slender,  
8 or 9 lines long, the <sup>inf</sup> ~~reflexed~~  
~~margin~~ induplicate margins  
or wings of the lobes narrow  
and entire or some times obsolete.  
Drupe baccate.

To this perhaps belongs the



Sandwich Island specimen, collected  
by Gaudichaud in the voyage of the  
Bonite, seen by Delessert in De-  
lessert's herbarium, and referred to  
*S. montana*; but Labillardiere's  
species is a tall upright shrub,  
with well-developed lobes to the  
calyx.

7. *Scavola Gaudichandi*, <sup>Arn.</sup> Hook. &

*S. fruticosa*, erecta, glabra; ax-  
illis breviter barbatis mox nudis;  
foliis oblanceolatis vel spatula-  
lato-oblongis in petiolum atten-  
uatis seu rariter denticula-  
tis ~~et~~ <sup>fere avenis</sup> carnosulo-crassiusculis  
~~venis obsoletis~~; pedunculis brevibus  
<sup>(unc-)</sup> paucifloris; calycis limbo trun-  
cato obscure quinquelobo; corollae

lobis(alis aestivatione induplicatis  
exclusis) linear-lanceolatis.

Scavola montana, Gand. Bot.  
Voy. Freyc. p. 460, non  
Labill.

S. Gandichandi, Hook. & Arn.  
Bot. Beech. Voy. p. 89; DC.  
Prodr. 7, p. 507, non S. Gandi-  
chaidiana, Cham.

S. Menziesiana, var. glabra,  
Cham. in Linnaea, 8, p. 227?  
Temminckia Gandichandi, De-  
Vries, Gordon, p. 11.

Stat. Sandwich Islands, Kauai,  
Gaudichaud, Macrae (no. 27), &c.  
Muni, Kerry (no. 304): a form  
with narrower and sometimes rather  
falcate leaves, answering to the  
character by Gaudichaud, Kauai,  
and on the southeast coast of

Hawaii, also on the ascent of  
Moua Loa; broader leaved  
forms.

No specimen of Sandichand's  
original plant could be found in  
the Paris Herbarium; but Macrae's  
and Kuny's plants, above cited,  
clearly answer to it. It has  
a less developed inflorescence, and  
~~smaller~~ narrower, somewhat fleshy-  
thickened, nearly or quite veinless  
and more entire and smaller  
leaves than the following, - of  
which polymorphous species, however,  
I expect it will yet prove to be  
an extreme form. The corolla  
is more slender, usually glabrous,  
but sometimes sparingly pubes-  
cent. The flowers of this and the following  
species are white, not yellow as *Delavies* implies.  
*Delavies*'s genus *Terminckia*  
is said to differ from *Seavola*  
in the inflorescence not being cymose,



nor the filaments bearded, nor  
the fruit fleshy (baccate). But not  
one of these distinctions is valid.

It would be difficult to find a  
more purely cymose inflorescence  
than in these species when the  
peduncle develops several flowers;  
the filaments are equally beard-  
less in the original and perhaps  
in every known species of Scorvola;  
and the mature fruit of the  
Sandwich Island species, referred to  
Ternstroemia, is a baccate drupe.

8, Scorvola Chamissoniana, Gaud.

Scorvola Chamissoniana, Gaud.

Bot. Voy. Freyc., p. 461, t. 82 (  
forma corolla pubescente); Hook.  
Bot. Beech. p. 89.

S. (Chamissoniana Gaud.?) Gaudichau-  
diana, Cham. in Linnaea, 8, p. 226;

stirps corolla etc. glabra.

S. Menziesiana, Cham. l.c. p.  
227 <sup>excl. var. 3</sup> stirps parvifolia, glabra et  
pubescens.

S. ciliata, G. Don. Syst. 3, p. 728;  
DC. Prodr. 7, p. 506.

S. ligustrifolia, Nutt. in Trans.  
Amer. Phil. Soc. l.c.; forma  
foliis minoribus subintegerrimis.

S. pubescens, Nutt. l.c.; forma  
pl. m. pubescens.

S. pubescens, Gaud. ined. in Herb.  
Mus. Par.; foliis junioribus  
subtus et inflorescentia mol-  
liter pubescentibus; corolla  
extus pubescente.

S. intermedia, Gaud. ined. in  
Herb. Mus. Par.; foliis lan-  
ceolatis fere integerrimis  
glabris; corolla glabra.

S. Beilliana, Gaud. ined. l.c.; forma

foliis majoribus puberulis  
rarius serratis; pedunculo  
elongato.  
Ternstroemia Chamissoniana, ciliata, Ellenriesi-  
ana, De Vriese, l.c.

Tab. Sandwich Islands; gathered by all collectors. In the present collection ~~the ordinary form~~ from Oahu, in the mountains behind Honolulu; both smooth and large-leaved forms with slender many-flowered peduncles; and forms with smaller and <sup>almost</sup> ~~nearly~~ entire leaves and few flowers. Kauai near Koloa; with lanceolate entire leaves; S. intermedia, Gand. Hawaii; district of Puna and Waimea; with rather <sup>rigid and</sup> large oblong-lanceolate leaves, sharply toothed, minutely downy underneath, nearly S. Dielliana, Gand. North bank of the crater of East Maui; like the last, but with broader,



oval-oblong and subsessile leaves,  
minutely ~~and sparingly~~ pubescent  
beneath; the axils unusually bearded.

The above are evidently forms  
of one polymorphous species.  
It has thinner and more veiny  
leaves than the foregoing, mostly  
larger and more toothed; the lobes  
of the corolla broader and broadly  
wing-margined; the peduncles  
usually slender and ~~in~~ often sev-  
eral-flowered.

9. Scavola mollis, Hook. & Arn.

Scavola mollis, Hook. & Arn. Bot.  
Beech. Voy. p. 89; DC. Prodr. 7,  
p. 306.

Ternstroemia mollis, DeVries, Gooden.  
p. 12, t. 2.

Hub. Oahu, on the mountains behind Honolulu, where it was collected in Beechey's voyage, also by Gandichand in the voyage of the Bonite. On Kauai, Henry gathered specimens with the leaves somewhat less downy.

Well marked by the soft and dense caescent pubescence or close tomentum of the lower surface of the (large, oblong-lanceolate) leaves of the short-peduncled inflorescence, and of the exterior of the corolla. The latter has not a particularly long tube, nor are its lobes unusually pointed.

10. Scavola (Camphusia) glabra <sup>Hook. & Arn.</sup>

Scavola glabra, Hook. & Arn. Brit. Beechey's Voy., p. 89; DC. Prodr. 7, p. 807; Gand. Voy. & Camphusia glabra, De Vries, l.c. p. 15, t. 1.

Hab. Mountains behind Honolulu, Oahu, where it was detected in Bucher's voyage, also by Gandichaud, &c.

The large, solitary flowers, with the <sup>ray or less curved</sup> corolla over an inch long, yellow, glabrous, and of a firm texture, give this species a peculiar aspect; but there is nothing of generic consequence. The limb of the corolla is nearly equally five-~~lobed~~ cleft, though some of the divisions are apt to be conglutinate at their base. The anthers are nearly normal for the genus; the connective is similarly produced in the following species, and in S. montana as figured by Labillardiere.



11. Scavola floribunda, Sp. Nov.

S. fruticosa; ramis ~~novellis~~ puberulis ~~max~~ glabris; axillis vix barbatis; foliis lanceolato-oblongis subspathulatis submembranaceis repando-dentatis obscure penninerviis glabris basi attenuata sessilibus vel subpetiolatis; cymis multifloris ~~et~~ axillis supremis et terminali thyrsium amplum efficientibus; calycis lobis ovatis oblongisve ovario brevioribus; corolla extus incana, lobis intus glabris oblongis; ~~ind~~ stylo glabro; indusio ciliato extus piloso.

Hab. Looe Islands, at Orolan and Kewa, in clearings. Also collected in the same island by

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Professor Harvey and by Dr. Serrano!!

"Stem 6 feet high", woody,  
glabrous except at the summit,  
the younger axils somewhat bear-  
ing <sup>the branches very leafy</sup> ~~the~~ <sup>leaves</sup> ~~leaves~~ thick, but  
apparently neither fleshy nor  
coriaceous, from 2 to 6 inches  
long, smooth and green both  
sides, the margins undulate  
or repand-toothed, or entire.  
Flowers in small pedunculate  
cymes from the upper axils, and  
in a compound and very many-  
flowered terminal one, which  
when well developed <sup>considerably</sup> exceeds the  
leaves, the whole forming an  
ample thyrsoid panicle.  
Corolla half an inch long,  
noary-whitened externally,  
smooth within except the upper  
part of the tube, which is villous.  
Anthers tipped with a blunt appendage.  
Fruit drupaceous.



Ord. Campanulacea,

1. Wahlenbergia, Schrad.

1. Wahlenbergia linarioides, A. DC.

Hab. Chili, in the vicinity of  
Santiago.

2. Wahlenbergia gracilis, A. DC.

Hab. New Zealand, and New South  
Wales at Sydney, Woolongong, &c.

3. Wahlenbergia Sieberi, A. DC.

Hab. Sturte's River, New South Wales.

3. Wahlenbergia Peruviana, Sp. Nov.

W. <sup>hirtella</sup> ~~hirsutula~~, humilis; caulibus

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ramosis diffusis; ramis usque ad  
apicem foliosis; foliis <sup>alternis</sup> parvis spathe-  
ulatis subintegerrimis sessilibus,  
summis floribus ~~stipantibus~~ bracte-  
antibus; calycis tubo hemisphae-  
rico hirsuto lobis oblongis brevi-  
oribus; corolla brevi-campanulata  
ultra medium quinquefida;  
capsula semisupera, parte libera  
conico trivalvi.

Hab. Andes of Peru above  
Baños.

Plant only 2 or 3 inches high,  
diffusely branched close to the ground,  
apparently from a perennial root;  
the herbaceous branches ~~apparently~~  
~~rather fragile~~ slender. Very leafy  
up to the ~~flower~~ solitary terminal  
flower, slightly hairy. Leaves only

3 lines long, oblong, spatulate, <sup>(obtusely)</sup> sessile, entire, ~~venulose~~ veinless, sparsely and minutely hispid, especially on the margins. Flower ~~rather large for~~ Tube of the calyx hemispherical or broadly obconical, about a line. ~~nearly two times~~ <sup>densely</sup> long, hirsute; the lobes a line and a half in length, oblong, obtuse, less hairy, in fruit fully two lines long. Tube of the corolla considerably shorter than the lobes of the calyx, which the oblong divisions somewhat exceed. Filaments subulate, thin; anthers oblong-ovate. Style short; stigmas 3, oblong-filiform. Capsule 3 lines long, ovoid-conical; the elongated free summit nearly equalling the lobes of the calyx, and loculicidal. Seeds oval-oblong, very smooth. - The specimens are



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in fruit; only a single flower re-  
maining, but they suffice for the  
determination of this interesting  
addition to the genus *Nahleria*.

Rovella ciliata, Linn. was  
picked up at the Cape of Good  
Hope.

## Ord. Lobeliaceae.

The principal interest of the collection in this order ~~is~~ relates to the arborescent, shrubby or fleshy-stemmed Lobeliaceae of the Sandwich Islands. The species are numerous and peculiar, but difficult of investigation in herbaria, owing to the imperfection of the materials in collections, and to the injury from insects to ~~the~~ <sup>the specimens of</sup> ~~attack~~ which these and other lactescent plants are particularly liable. There are moderately good materials extant of ten or ~~twelve~~ <sup>eleven</sup> species, and imperfect specimens or indications of <sup>about</sup> as many more, and still others are probably to be discovered. Our own materials, which have generally been compared with those in the Hookerian Herbarium, and

with those of Gaudichaud <sup>in</sup> ~~part~~  
Paris ~~herbar~~ Museum, have been  
<sup>recently</sup> supplemented by a set of the dupli-  
cates of M. Kemy's excellent collection.

~~Exclusive of~~ <sup>several nominal species, of</sup> ~~three~~  
Exclusive of ~~two species of Helia,~~  
and <sup>of</sup> a striking new Isotoma? (the  
latter ~~known~~ only in Kemy's collec-  
tion, ~~309~~ <sup>60</sup> from Kaurai or Aikau),  
the known species of the Sand-  
wich Islands may all be referred to  
Gaudichaud's genera Helissea, Cyanea,  
and Clemonia. The only essential  
character of his genus Rollandia,  
viz. the adnation of the staminal  
tube with one side of the tube of  
the corolla, is, <sup>(as)</sup> I suppose, a mistake.  
At least this does not occur or-  
ganically in the plant which  
accords with the specimen of  
Rollandia lanceolata (now flowerless)  
collected in Freycinet's voyage, upon



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which Gandichand founded this  
genus. nor<sup>as</sup> I think (though our  
flowers are too much injured to  
~~be sure~~ render the observation certain)  
in that which equally answers to  
~~this R. crispa~~ <sup>(the)</sup> more miserable spe-  
cimen of R. crispa. The former  
species is a good Delissea; the latter,  
having larger and somewhat foliaceous  
calyx-lobes, is one of the species  
through which Delissea shades off  
into Cyanea. To the latter genus  
I confidently refer Prist's Macro-  
chilus (Lobelia? superba; Cham.),  
of which the calyx-lobes are probably  
incorrectly said to be imbricated in  
anthesis, and also a <sup>new and</sup> most remark-  
able arborescent species, which by its  
extremely long and apparently pe-  
taloid calyx-lobes approaches Cler-  
montia; but these divisions are perfectly  
separate to the base, <sup>spreading in anthesis,</sup> and not deciduous.

1. Delissea, Gand.

Delissea & Kollandia (excl. K.  
crispa), Gand. Bot. Voy. Freyc.,  
p. 457, 458, t. 74, 76-78; A. DC.  
Prodr. 7, p. 342, 344.

1. Delissea lanceolata.

Kollandia lanceolata, Gand.  
Bot. Voy. Freyc., p. 458; ~~t. 74~~  
Hook. & Arn. Bot. Beech. Voy.,  
p. 88, excl. pl. fol. minor. Mac-  
rae.

K. montana, Gand. l.c. Ic.  
t. 74; folia superiora diminuta,  
K. lanceolata B. grandifolia,  
A. DC. Prodr. 7, p. 344.

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Hab. Oahu, Sandwich Is-  
lands, on the mountains behind  
Honolulu, where it was first  
collected by Gaudichaud, and  
afterwards by Macrae, Lay and  
Bottle, &c.

Gaudichaud's solitary  
and original specimen, preserved  
in the Paris Herbarium, accords  
with his character "foliis mag-  
nis", these being <sup>nearly</sup> a foot and a  
half long. His plate well rep-  
resents the lower portion of two  
such leaves; but the others are  
much too small. The large-  
leaved variety of Stokes, and of  
deCandolle <sup>(blue)</sup> is the true lanceo-  
lata. The ~~flowers~~ flowers in size and  
shape ~~answer~~ correspond with  
Gaudichaud's figure, but the  
staminal column is wholly



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free, as De Candolle has noted,  
<sup>sometimes</sup> or merely sticks fast in the dried  
specimen where it comes in con-  
tact with the upper side of  
the corolla.

To this species perhaps  
belongs no. 301 of Kerm's  
collection, from Hawaii,  
with apparently smaller flowers,  
and almost entire leaves more  
attenuated below.

Gaud.)

2. Delissea clermontiioides,

Delissea clermontiioides, Gaud.  
Bot. Voy. Bonite, t. 47.

D. grandiflora, Gaud. in sched.

<sup>Hert. Mus. Par.</sup>  
Kollandia Humboldtiana, Gaud. l.c. t. 76?

Stat. Oahu, Sandwich Island,  
on the mountains behind Honolulu.

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A single, insufficient specimen, which appears to agree with the specimens and the figure of ~~the~~ Gandichand's *D. clermontoides*, of which no description has been published. The specific name probably indicates a resemblance of the leaves, <sup>and fruit,</sup> ~~and flowers,~~ to those of this author's *Clermontia macrocarpa*, not of the calyx, the lobes of which are small, only a line and a half long. The corolla is externally pubescent in the bud. *D. Kunthiana*, Gand. l. c. t. 77, <sup>may be the same species</sup> (as I ~~suspect~~ <sup>suspected</sup> *Hollandia Humboldtiana* also.

3: Delissea Delessertiana.

Rollandra Delessertiana,  
Sand. Bot. Voy. Borite,  
t. 75.

Var. ? pinnatiloba; foliis profunde  
sinuato-pinnatifidis, lobis  
utrinque 5-7 obtusissimis  
integerrimis.

Hab. Mountains of Kauai,  
Sandwich Islands.

This is ~~said to be a~~ noted as  
a shrubby plant, with few branches,  
the the deeply sinuate-pinnatifid  
leaves a foot long. Flowers not  
seen; so that the determination  
is wholly doubtful.



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4. Delissea coriacea, Sp. Nov.

D. fruticosa, glabra; foliis am-  
plis (pedalibus et ultra) oblongo-  
lanceolatis coriaceis repando-  
serrulatis basi acutis longi-  
usculis petiolatis, venulis con-  
spicue reticulatis; racemis plu-  
rifloris petiolum haud super-  
antibus; calycis limbo obsolete  
sen dentibus 5 minutis; corolla  
pollicari subcuneata.

Var. B. foliis spatulato-lanceo-  
latis in petiolum brevem longe  
attenuatis, ~~calycis dentibus~~

Hab. Sandwich Islands, Kau-  
ai, Kemy, no. 302; ~~the type of the~~  
~~species~~ in flower. North bank of  
flank

the crater of East Maui; ~~in~~  
the var. B., in fruit.

The materials, <sup>employed</sup> consist of a fine  
flowering specimen from Kemy's  
collection, received from the Paris  
~~Herbarium~~ Museum, to which I  
have ventured to join an ~~incom-~~  
imperfect fruiting specimen of our  
collection. The character, exclusive  
of the variety, is <sup>drawn</sup> wholly from the  
former. Its leaves are evidently  
crowded at the summit of a thick  
ened stem; the stout petioles are  
4 or 5 inches long; the blade fully  
a foot long and 3 inches broad, ~~most~~  
smooth, of a leathery texture,  
with a very strong midrib, the mar-  
gin rather obscurely serrulate.  
Peduncles axillary, an inch or two ~~in~~  
~~length~~ long and with the equally  
short axis of the raceme about  
~~the~~ as much longer. Flowers

rather numerous and crowded.  
Pedicels an inch or less in length.  
Tube of the throat, fleshy, the  
limb so obsolete that the rather  
fleshy corolla appears in the  
bud to be a <sup>direct</sup> continuation of it;  
but the junction may at length  
be discerned and usually five  
denticuli or minute teeth which  
represent the limb of the calyx.  
Corolla an inch long, rather  
slender, moderately curved in the  
bud, becoming straighter, <sup>hardly gibbous,</sup> ~~moder-~~  
more deeply cleft or fissile on  
the back; the five lobes linear-  
lanceolate, equal, or the two up-  
per ones at length more separa-  
ble. Staminal <sup>early</sup> column totally  
free from the corolla, glabrous, or  
nearly so, as are the anthers, two of  
the latter strongly bearded penicil-  
late at the summit.



The leaves preserved of the sup-  
posed variety from Maui are  
smaller, a foot long including the  
short petiole, into which the  
blade very gradually tapers; the  
fruit is a globose-ovoid berry, of  
the size of a garden cherry,  
its summit showing the vestiges of  
more evident calyx-teeth.

5. *Delissea* { obtusica  
~~puberula~~, Sp. W.

*D. suffruticosa*; ramis junioribus  
floribusque undique pubescenti-  
bus; foliis membranaceis ob-  
longis serrulatis, apice vel utrin-  
que obtusis subtus parce pu-  
bescentibus; racemis plurifloris  
petiolum gracilem natis su-  
perantibus; calycis limbo fere

obsoletus; corolla gracili sub-  
pollicari incurva.

Var. B.? mollis: caule crassiori;  
foliis elongatis (subpedalibus)  
oblongo-lanceolatis basi in  
petiolum breviusculum attenu-  
atis supra puberulis, subtus  
molliter pubescentibus; "flores  
pollicaribus crassiusculis cauleis".

Hab. Sandwich Islands: The  
type of the species in the mountains  
of Maui. The ~~double~~ doubtful  
variety in the forest on the side  
of Mouna Kea, Hawaii.

The plant from Maui has the  
leaves scattered along the upper  
part of a rather slender stem;  
the membranaceous blade 5 or 6  
inches long by  $1\frac{1}{2}$  or 2 inches wide,  
elongated-oblong, minutely and rather



sparsely pubescent beneath, nearly  
glabrous above, all rounded at the  
summit, but sometimes with a  
minute point, either rounded, obtuse  
or acute at the base; the slender  
petiole  $1\frac{1}{2}$  or 2 inches long. Pedun-  
cles, pedicels, calyx, and even the  
slender corolla beset with a close  
and fine pubescence.

The Hawaiian plant, which  
for the present may be appended  
as a variety, has <sup>a stouter stem,</sup> more downy and  
elongated (9 to 12 inches long), and  
less blunt leaves, more <sup>more</sup> overlapping  
at the base, in shape like those  
of D. lanceolata; and, judging from  
Dr. Pickering's menogramum, the  
"blue" corolla <sup>is</sup> <sup>larger and</sup> not so slender.  
In the specimen the flowers have  
been consumed by insects.

It is quite possible that both these  
are pubescent varieties of the following, <sup>rather</sup> poly-



morphous species.

b. Delissea acuminata, Gaud.

Delissea acuminata, Gaud.

Bot. Voy. Freyc. p. 457, t. 7b;

Cham. in Linnæa, 8, p. 219;

Hook. & Arn. Bot. Beech. Voy,

p. 88; A. DC. Prodr. 7, p. 342.

Var.  $\beta$ . angustifolia; foliis cuneato-  
lanceolatis, aut angustis aut  
latiusculis.

<sup>(Lobelia)</sup>  
D. angustifolia, Cham. l.c.; Presl,  
Prodr. Lob. p. 47; DC. l.c.

Hab. Oahu, Sandwich Islands,  
in the mountains behind Honolulu;  
the lanceolate-leaved form, which  
was also ~~gatt~~ collected by Kery, &c.

Doubtless *D. angustifolia*, to which all the specimens in the present collection belong) is merely a narrow-leaved form of *D. acuminata*. The elongated-lanceolate leaves vary from 6 to 9 inches long (~~with~~ <sup>on</sup> ~~the~~ petioles of 3 to 5 inches long) and from one to two inches broad; they taper to both ends and are finely and evenly serrate. Calyx-teeth sometimes evident and subulate, often obsolete. Corolla an inch or an inch and a quarter in length, slender, glabrous.

7. Delissea undulata, Gand.

*Delissea subcordata* & *D. undulata*, Gand. Bot. Freye Voy., Freye, p. 457, t. 77, 78; A. St. L. c.



Stat. Oahu, Sandwich Island,  
in the mountains behind Honolulu;  
the var. subcordata,

In combining the two species  
of Gaudichaud, ~~the~~ <sup>the</sup> name  
undulata is preferable. While some  
leaves are subcordate others on the  
same stem are either rounded, obtuse,  
or acute at the base. The flowers  
are glabrous, but the calyx, &c. as  
in other species, is sometimes more  
or less pruinose. The corolla in  
our flowering specimen is unusually  
large, i.e. from one and a half to two  
inches in length, <sup>in the form with cordate leaves</sup>. I have observed the  
small protuberances represented by  
Gaudichaud upon the corolla of I.  
undulata; but they are inconstant.  
No. 300 of Kunz's collection exhibits  
three varieties of this species, all  
from Kauai or the adjacent island  
Nihoa, viz. I. undulata, Gaud., with

lanceolate or deltoid lanceolate  
leaves, and a very thick, fleshy,  
scarred caudex; the ~~var~~ subcor-  
data, with broader, subcordate leaves,  
and a still thicker fleshy caudex;  
and a form with a much less  
thickened stem, and <sup>barely</sup> repand-toothed  
leaves much attenuate at the  
base.



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8. *Delissea*? *platyphylla*, Sp. M.

D. caule fruticoso <sup>ergyali</sup> pe-  
toliisque tuberculis <sup>aculeisve</sup> ~~spinosis~~  
conicis multibus obsitis; foliis  
sesqui-bipedalibus, obovato-ob-  
longis repandis <sup>membranaceis</sup> glabris; pe-  
dunculis axillaribus brevibus  
crassis paucifloris; lobis <sup>glabri</sup> calycis  
brevissimis subulatis.

Hab. Sandwich Islands; in  
forests of the District of Puna, Hawaii.

This is recorded as having a  
simple stem, about five feet  
high, beset with short ~~and~~ soft  
spines or tubercles which are so soft  
that they almost disappear on  
drying. The ample leaves are  
from one to two feet long and 7 or 8  
inches broad, smooth, membranaceous,

and vein, the midrib and larger  
veins beneath <sup>often</sup> bearing a few  
small and weak prickles, the  
flowers not seen; but a short  
axillary spur or ~~bract~~ thick  
peduncle, like that of some  
species of *Delissea* bears two or  
three <sup>pedicellate</sup> turbinate, forming fruit,  
evidently fleshy. The truncate border  
furnished with five very short calyx-  
teeth; on which account I refer the  
plant to *Delissea*, although the  
fruit is ~~evidently~~ rather that  
of *Cyanea*, and the resemblance to *Gau-*  
*dichaudia* *rotundifolia* not remote.

A very similar species was  
observed in the forests <sup>(at the foot</sup> of *Monte*  
*Kea*, but with ~~not~~ less ample leaves  
and no tubercles; the materials wholly  
insufficient for description.

2. Cyanea, Gaud.

Cyanea, Gaud., Bot. Voy. Freyc.  
p. 457, t. 78-; Endl. Gen. p.  
512; A. D. C. Prodr. 7, p. 343.

Macrochilus, Presl, Prodr.  
Lb. p. 47; Endl. Gen. p. 513;  
D. C. l. c.

1. Cyanea Grimesiana, Gaud. <sup>l. c.</sup>

Var.  $\beta$ . Citrullifolia; foliis bipin-  
natis partitis, lobis segmentis  
sinuatis; caule aculeis conicis  
ereberrimis horrido.

Tab. Sandrich Island; on the  
mountains of Oahu, Var.  $\beta$ . Ha-  
waii, in the forest of Mornu  
Roa and Mornu Lea.

The corolla, instead of blue, as  
originally stated, was marked by Gau-  
dichaud, in his note upon the speci-  
mens gathered in the cruise of the  
Borite as bluish-rose-color; and is  
said by Nuttall (in Trans. Amer. Phil.  
Soc. l. c. p. 252) to be "white, externally  
striped with dark reddish-purple."  
In our specimens the unexpan-  
ded corolla is <sup>much</sup> more curved than



in Gandichant's plate; and the  
lobes of the calyx are much nar-  
rower, linear, a little over an inch  
long and two lines broad, valvate  
in the bud, with the margins  
slightly reduplicate, and plane.  
But in other <sup>the calyx</sup> specimens from which  
the corolla has fallen is shorter,  
only 7 or 8 lines long, broader, and  
with the margins more or less crisped,  
as represented in the published figure.  
The foliage is so variable that  
the Hawaiian specimens <sup>for the present</sup> must be  
deemed to be only a variety, although  
~~the~~ its blossoms are unknown.

2. *Byanea aspera*, Sp. M.

l. foliis oblongo-ovatis acumina-  
tis denticulatis pubes ad venas  
venulasque ~~fusco~~ ochraceo-hir-  
tellis utrinque setulis basi  
papillosis asperatis, petiolo  
muricato; calycis glabri lobis  
ovalibus <sup>obtusissimis</sup> ~~post anthesin accrescen-~~  
foliaceis tubum elongato-obconi-  
cum aequantibus; corolla 2½-pollica-  
ri curvata.

Hab. Sandwich Islands; on  
the mountains of Oahu, behind  
Honolulu, at the elevation of 2000  
feet.

The single specimen is so greatly  
injured by insects that I can ~~only~~  
barely verify the memoranda of  
Dr. Pickering. I cannot doubt  
that it is a congener of *Byanea*  
*Grimesiana*, although with undi-

vided leaves, and it seems to be related to the three <sup>lobed</sup> ~~species~~ from Chamisso from Oahu, which Presl and DeCandolle have attached to Delissea. The leaves are 9 or 10 inches long, 4 or 5 inches wide, thickish; the very conspicuous veins and veinlets of the lower surface beset with short yellowish-brown hairs and also aculeolate, as is the upper surface generally, with yellowish pointed tubercles or short <sup>(from a)</sup> setae dilated conical base; the midrib beneath and the thick petiole are still more aculeolate, as probably are the branches, in the manner of C. Grimesiana. Ovary 5 or 6 lines long, acute at the base; the broad calyx-lobes apparently of about nearly the same length, or becoming so, according to the memorandum the latter are short and obtuse, subse-



quent by enlarging or becoming folia-  
ceous. Corolla apparently as large  
as that of *C. Grimesiana*.  
Leaves were collected of an allied apparently allied  
species, ~~without flowers~~ but <sup>an allied apparently allied</sup> destitute of prickly points.

3. *Cyanea*? *pilosa*, sp. nov.

6. ? caule frutescente; foliis (sub-  
pedalibus) membranaceis obva-  
tis utrinque acutis. vel acumini-  
natis crosso-crenatis pilis brevibus  
mollibus hirsutis; racemis bre-  
vibus in pedunculo <sup>(1-2-3-4-5-6-7-8-9-10-11-12-13-14-15-16-17-18-19-20-21-22-23-24-25-26-27-28-29-30-31-32-33-34-35-36-37-38-39-40-41-42-43-44-45-46-47-48-49-50-51-52-53-54-55-56-57-58-59-60-61-62-63-64-65-66-67-68-69-70-71-72-73-74-75-76-77-78-79-80-81-82-83-84-85-86-87-88-89-90-91-92-93-94-95-96-97-98-99-100)</sup> hirsutissimo  
paucifloris; floribus "parvis griseo-  
caeruleis" pedicellisque glabris;  
lobis calycis linearibus foliaceis  
natis oblongo aequilongis.

Hab. Hawaii, Sandwich Islands,  
on the <sup>windward</sup> side of Mouna Kea at the  
lower margin of the forest.

Described from an imperfect  
specimen, having only a few young

flower buds, aided by Dr. L'Herminier's memoranda. This species, like the preceding, is evidently allied to Chamissoa, Stelia calycina, ambigua, and pinnatifida, referred by Presl and De Benth to Delissea, but which by their foliaceous calyx-lobes seem to affect a transition to Cyanea. The present species and the next seem altogether ambiguous. It must be left for better materials to determine the proper characters and limitation of these genera.

4. Cyanea Hollandia.

C. fruticosa; foliis sesqui-tripeda-  
libus obovato-lanceolatis basi  
inferne longe attenuatis bre-  
viter petiolatis membranaceis

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fere glabris margine serrula-  
tis undulatis vel integerrimis;  
pedunculo petiolum adaequant  
superne bracteato pauci-  
floro; floribus cinereo-puberu-  
lis; calycis lobis oblongis  
~~seu~~ seu lanceolatis foliaceis  
ovario ~~oblongo~~ aequilongis;  
corolla sesquipollicari; fructu  
pyriformi pollicari.

*Kollandia crispa*, Gand.  
Bot. Voy. Freyre, p. 459.  
*Lobelia calycina*, Cham. in  
Linnaea, 8, p. 222?

Hab. Oahu; on the moun-  
tains behind Honolulu.

A comparison of our speci-  
men with the imperfect original  
now shows this to be Gandichaud's  
*Kollandia crispa*, which specific



name, however, ~~is not a good~~  
would mislead. ~~Although the~~  
~~lobes of the calyx are smaller~~  
the affinity of the species is evident-  
ly with the following species,  
although the lobes of the calyx  
are smaller. They are, ~~however~~ folia-  
ceous and persistent, but only about  
three lines in length. The corolla  
is minutely pubescent externally,  
fissile down the back,  
the and within free from the stam-  
inal column. <sup>Two of the anthers only penicillate-bearded,</sup> Fruit about an  
inch long when full grown,  
cinereous or cuneate, obovate-  
pyriform. Although this does  
not ~~there~~ accord throughout with  
the description, it may prove  
not specifically different from  
Chamisso's Lobelia calycina.

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5. *Cyanea tritomantha*, Sp. Nov.

C. Caule simplici arborescente  
ergyali; foliis lato-lanceolatis  
membranaceis subintegerrimis  
fere glabris basi acutis tri-  
pedalibus (incl. petiolo crasso  
5-8-pollicari); "floribus confertis",  
magnis; calyce pubescente,  
lobis linearibus pollicaribus  
foliaceis ~~sub oblongo~~ ovario  
cylindraco longioribus; corolla  
tripollicari extus tomentoso-pu-  
bescente in segmenta 3 longo-  
linearia ~~max ~~partita~~~~, divisa.

Hab. Hawaii, Sandwich Isl-  
ands, in the forests on the <sup>windward</sup> side  
of Mouna Kea, at an elevation of  
3600 feet. One of the great leaves and  
one or two flowers and flower-buds



of this striking species are pre-  
served in the collection. The  
fruit is unknown. The habit of the  
plant is that of the following  
species; the simple ~~stem~~ or trunk  
rising to the height of six feet, and  
bearing a crown of the ample  
leaves at the summit. The flow-  
ers are said in Dr. Pickering's notes  
to be "crowded at the base", probably  
in axillary clusters. The pedicels are  
an inch long, <sup>bibracteate</sup>; the cylindraceous  
or oblong calyx-tube or ovary  
7 or 8 lines long; the calyx-lobes an  
inch long, rather less than two lines  
wide, acutish, valvate in aestiva-  
tion, cleft down to the ovary, ap-  
parently persistent, corolla slender,  
about 3 inches long, <sup>curved</sup>, externally more  
thickly pubescent and cinereous  
than the calyx, in anthesis ap-

parently at once separating almost  
to the base into three long and  
narrow divisions, <sup>which are blue internally;</sup> the middle one  
a little broader than the lateral  
ones, its ~~summit~~ apex seemingly  
entire. Column somewhat exceed-  
ing the corolla; <sup>tube of</sup> filaments <sup>and slightly</sup> minutely  
pubescent: anthers over half an  
inch long, the two shorter ones  
strongly penicillate at the summit.

b. Cyanea superba.

Lobelia superba, Cham. in Lin-  
naea, 8, p. 223.

Macrochilus superbus, Presl,  
Prodr. Lit. p. 47; A. St. Prodr.,  
7, p. 341.

Stat. Vahne, on the mountains  
behind Honolulu, where it was  
discovered by Chamisso.

It is much to be regretted that the specimen of this striking species, - consisting of a leaf and a single inflorescence presenting only withered flowers, and much injured by insects, - though sufficient to identify the species, adds nothing to Chamisso's incomplete account of it. Dr. Pickering notes that the woody stem is eight feet high; the <sup>(as in the specimen)</sup> leaves,  $2\frac{1}{2}$  feet long, including the petiole, oblong-lanceolate; the rather small flowers crowded in a sort of woolly capiculum at the end of a long, foliaceous-bracteate, nodding peduncles. The ~~perianth of the~~ <sup>withered corollas are</sup> ~~the~~ densely canescent-tomentose externally, split down the back, five-lobed at the summit. Probably the lobes of the calyx are not imbricated in aestivation, as Eichler states, but valvate, as in the allied species,



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7. *Cyanea leptostegia*, Sp. Nov. (Tab.

*C. glabra*; foliis ad apicem  
caulis arborei simplicis con-  
fertis lanceolatis subsessilibus  
integerrimis <sup>undulatis</sup> (bipedalibus et ul-  
tra); racemis brevissimis con-  
fertifloris; calycis segmentis  
prolongis angustissime linearibus  
e basi latiori ~~marginata~~ patentibus  
corolla gracili longioribus  
persistenteribus.

Hab. <sup>near</sup> Upper edge of the forest, ~~on the~~  
~~the summit of~~ ~~the mountain~~ of Kauai, Sand-  
wich Islands; at an elevation of 37000  
feet. A most remarkable spe-  
cies, evidently a congener of the  
foregoing, but with extraordinarily  
long and narrow calyx-lubes. The  
crown of long and narrow leaves  
each two feet or more in length,





2 1/2 inches wide, nearly sessile and entire, smooth, and rather coriaceous, surrounding a thick arborescent stem of 8 to 15 feet in height, giving the plant a Palm-like or Dracaenoid aspect. The racemes are short <sup>and dense</sup>, subcapitate, ~~apparently~~ <sup>clustered in</sup> short peduncles, ~~from~~ the axils of the leaves. Bracts and bractlets filiform-linear. Pedicels less than an inch long. The gravid ovary or young fruit 7 or 8 lines long, fleshy, pentangular? oblong, acute at the base, glabrous, as is the whole flower, its truncate summit bearing the five divisions of the calyx, which are fully two inches long but less than half a line wide, except at the end near their insertion, apparently of the same texture as the corolla, but more persistent, perhaps remaining on the fruit. Corolla an inch

and a half long, smooth, rather slender, cleft to the middle on the back, the five lobes equal and narrow. Column as long as the corolla; slender; two of the anthers penicillate at the summit. The inflorescence presented <sup>long</sup> in past anthesis, but the organs all remain, although the corollas are withering, and ~~partly~~. This species makes an approach to *Gleu-morbia*; ~~in the~~ but the divisions of the calyx separate at <sup>down</sup> ~~once~~ to the ovary, and are divergent and persistent.

3. Clermontia, Gaud.

1. Clermontia grandiflora, Gaud.

Var. a. brevipolia: foliis membranaceis ovatis leviter obovatis ovatisve ~~seu oblongis~~ utrinque angustatis vel acutatis modice serratis 2-3 bi-tripollicaribus, petiolo gracili pollicari.

Clermontia grandiflora, Gaud.

Nov. Bot. Voy. Freyc. p. 459,  
1. 73; ~~floribus~~ <sup>floribus</sup> ~~pluribus~~ <sup>pluribus</sup> ~~minutis~~ <sup>amplificatis</sup>, it.  
Dc. Prodr. 7, p. 342.

Var. B. oblongifolia: foliis oblongis seu elongato-oblongis saepe obtusis deorsum attenuatis repando-serratis 4-6-pollicaribus, petiolo bi-tripollicari.

Clermontia persicifolia & C. oblon =



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gipolia, Gand. l.c. t. 71, 72;  
Dc. l.c.

Var. longifolia: foliis subcoria-  
cis seu membranaceis oblongo-  
lanceolatis seu anguste  
oblongis creberrime serrulatis  
3-9-pollicaribus <sup>basis</sup> in petiolum  
1-2-pollicarem attenuatis.

Clermontia grandiflora, Hook. &  
Arn. Bot. Beech, p. 88, adn.  
C. Kakeana, Meyen in Pust  
Prodr. Lb. ex Dc. Prodr.  
l.c.; Walp. Kal. Meyen, p.  
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C. macrophylla, Nutt. in  
Trans. Amer. Phil. Soc. n.  
ser. 8, p. 251.

C. macrocarpa, Gand. Bot.  
Voy. Bonite, t. 49.

C. viridis, Gand. ined. in Herb.  
mis. Par.

~~Polypodium lanceolatum, Hook. & Thunberg, Bot. Beecheyana~~  
~~Macrae, Gandichand~~

Hub. Sandwich Islands;  
the var.  $\alpha$ , on Oahu, Molokai  
(Kenny), and on the western di-  
vision of Maui, where our natur-  
alists collected it, Var.  $\beta$ , Oahu,  
on the mountains behind Honolulu,  
and (foliage only, intermediate  
between this and the next variety)  
on the mountains of Kauai, Var.  
 $\gamma$ , Oahu (Macrae, Gandichand),  
(Meyen, Nuttall) and  
Hawaii, at various stations.

Without question Gandichand's  
three original species are all  
forms of one. The flower of  
his *C. grandiflora* is exaggerated  
in the figure, at least it is rather  
larger and much broader than  
in his specimen. As to the  
separation of the lobes of the  
calyx down to the base, in his  
*C. oblongifolia*, this often occurs,  
with age, in other forms. The

Plant forms a shrub or low tree,  
8 to 16 feet high, with green or  
greenish flowers two or three  
inches long, and ~~a~~ bright orange-  
colored berries, which, according to  
Nuttall, and to Gaudichaud's plate,  
are as large as a crab-apple <sup>when full grown,</sup>  
at least in the last-named variety.  
This form, seen in isolated  
specimens, might claim to be  
distinct; but it <sup>evidently</sup> passes into the  
others, and must, I suppose, be  
regarded merely as a variety  
of a polymorphous species.



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ined.

2. Clermontia parviflora, Gand.

C. fruticosa, glabra; foliis mem-  
branaceis lanceolato- vel sub-  
spatulato-oblongis breviter  
acuminatis crebre repando-ser-  
nulatis; ~~in petiolum gracilem~~  
~~angustatis~~; pedunculo pau-  
cifloro pedicellisque brevibus  
petiolum haud superanti-  
bus; floribus <sup>vix</sup> ~~fere~~ pollicariis  
leviter curvatis: "caeruleis"; calyce  
breviter quinquelobo corollam  
hinc alte fissam aequante,

"Clermontia Byroni, pyriformis,  
seu parviflora, Gand. nuss. in  
Herb. Mus. Par.

C. oblongifolia, Hook. & Arn. Bot.  
Beech. Voy. p. 88, adn., non  
Gaud.

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Kab. Hawaii (and Oahu?)  
Macrae, <sup>Wynne's Bay, Mr. Diell.</sup> Sandichand, S. i) in the  
forests on the slope of Mouna Kea.

This is noted by Dr. Pickering  
as "a branching shrub, 10 feet high,  
with small, blue, axillary flowers.  
The size of the latter, hardly an  
inch long and proportionally  
slender, well distinguishes the  
species. The leaves are thin,  $3\frac{1}{2}$  to  
5 inches long, the base narrowed  
into a slender petiole of an inch  
or an inch and a half in length.  
Immature berry ovoid or globular,  
3 or 4 lines in diameter.



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4. Sclerotheca, A. D. C.

1. Sclerotheca arborea, A. D. C.

Labelia arborea, Sparrm.; Forst.  
Prodr. p. 58, & <sup>Grillenm.</sup> mss. in Reeph.  
Faun. p. 48.

Stat. Tahiti, Society Islands; in  
mountain forests.

The specimens consist only of  
foliage and some fruit, and  
therefore throw no additional  
light upon the genus. The  
leaves of these specimens are  
not "ovate-oblong" as stated in  
Forster's Prodr. nor "ovate-  
acuminate", as stated by A. De Can-  
dolle, but more nearly "ovate-  
lanceolate" as in Forster's descrip-  
tion printed by Grillenm.; in  
fact they are oblong-lanceolate,  
with an acute base, and from  
5-10-12 inches long, not "dentate"  
but denticulate and some of them  
"obscurely serrate". Capsule over  
half an inch long, turbinate, of  
a hard texture, abruptly and con-  
spicuously pointed by the persistent  
and undurated base of the style,  
at the ~~side~~ base of which each



cell tardily opens by a small pore. Seeds very numerous, globular; the reticulated testa muricate-surfaced. The fruit in Forster's specimens is globose,

~~5.~~ Colensoa, Hook. f.

1. Colensoa physaloides, Hook. f.

Colensoa physaloides, Hook. f.

Fl. N. Zeeu., 1, p. 156.

Lobelia physaloides, A. Cunningham.

Bot. N. Zeeu.; Ob. Prodr. 7, p.

785; Hook. &c. Pl. 1, 555, 556.

Hab. Bay of Islands, New Zealand; in fruit, exhibiting the baccate character.

~~6.~~ Pratia, Gaud.

1. Pratia repens, Gaud.

Hab. Orange Harbour, Angia; very common.

2. Pratia longiflora, Hook. f.

Stat. High Andes of Chili above Santiago, ~~and~~ near the snow line.

To this species, judging from Meddell's description and figure, belongs P. oligophylla, Medd., of the Bolivian and Peruvian Andes.

3. Pratia angulata, Hook. f.

Stat. Waiararua Bay, New Zealand.  
Also, var. arenaria, Hook. f. (P. arenaria, Hook. f. Fl. Antarc. 1, p. 41, t. 29), Lord Auckland Islands, both with nearly sessile flowers, as figured by Dr. Hooker, and with peduncles equalling or slightly exceeding the leaves, half an inch or more in length.



7. Parastranthus, Don.

1. Parastranthus luteus, A. DC.

Hab. Cape of Good Hope near Cape Town. Also "Sydney," New South Wales! The latter in fine specimens, somewhat different in aspect from those of the Cape; and, although not so noted I imagine the specimens must have been cultivated.

8. Centropogon, Presl.

1. Centropogon Surinamensis, Presl.

Hab. Vicinity of Rio Janeiro, Brazil.

9. Lobelia, Linn.

1. Lobelia erinus, Linn.

Hab. Madeira <sup>(in the mountains)</sup> near Santa Anna.

2. Lobelia erinus, Linn.

3. Lobelia coronopifolia, Linn.

4. Lobelia triquetra, Linn.

5. Lobelia pinifolia, Linn.

Hab. Cape of Good Hope, in the immediate vicinity of Cape Town.



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6. Lobelia gibbosa, Labill.

Hab. Murrumbidgee River, New South  
Wales; often with toothed or some-  
what lacinate leaves, the L.  
simplicicaulis of K. Brown.

7. Lobelia purpurascens, K. Br.

Hab. Murrumbidgee River, New South  
Wales,

8. Lobelia gracilis, Andr.

Hab. Sydney, New South  
Wales. Also ticketed from New  
Zealand, but probably through a  
mistake, as has occurred in some other  
instances.

9. Lobelia anceps, Thunb.

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Hab. Woolangong and Mun-  
ter's River, New South Wales,  
Bay of Islands, New Zealand.

It ranges from the Cape of  
Good Hope round to ~~the~~ Chili.

10. Lobelia thapsioides, Schott.

Hab. Brazil, in the Organ  
Mountains, near Rio Janeiro. —  
The raceme is fully two feet long;  
The seeds are flat, orbicular, smooth  
and wingless. ~~The~~

~~var. <sup>A.</sup> ~~β.~~ ~~γ.~~ ~~δ.~~ ~~ε.~~ ~~ζ.~~ ~~η.~~ ~~θ.~~ ~~ι.~~ ~~κ.~~ ~~λ.~~ ~~μ.~~ ~~ν.~~ ~~ξ.~~ ~~ο.~~ ~~π.~~ ~~ρ.~~ ~~σ.~~ ~~τ.~~ ~~υ.~~ ~~φ.~~ ~~χ.~~ ~~ψ.~~ ~~ω.~~~~

11. Lobelia decurrens, Cav.

Hab. Obrajillo, Peru; the  
<sup>Peruvian</sup> Var. ~~β.~~ <sup>A. B.</sup> Pro N. with the  
calyx minute.



4. Arn.

12. *Lobelia macrostachys*, Hook.

*Lobelia macrostachys*, Hook. 4. Arn.  
Bot. Beech. Voy. p. 88; Gaud,  
Bot. Voy. Bonite, t. 46.

Hab. Sandwich Islands; on  
the mountains behind Honolulu,  
Oahu, at the elevation of 2500 or  
3000 feet; where it was detected  
in Beechey's Voyage, and by Gaud-  
chand in that of the Bonite.  
Also Hawaii, in the vicinity  
of the crater Laa Pele.

The tall stem branches; the  
branches terminating in a virgate,  
~~raceme~~ rather leaf-bracted raceme.  
Sides of the calyx water-lobes of rather shorter than the  
from 6 to 12 inches long, <sup>hemispherical or</sup> (ovoid)  
when developed. 2 to 3 inches long,  
according to Dr. Pickering the summit tinged with lilac.  
rather slender, curved, pale; the  
lobes slender, narrow-linear. The

mature fruit and therefore the dehiscence are unknown; but the thin-walled pericarp evidently indicates a capsule. Gandichand's figure exhibits flower-buds only. Full-formed flower-buds in our specimens are an inch and a half or two inches long, and mostly recurved.

13. Lobelia Gandichandii, A. DC.

Lobelia Gandichandii, A. DC.,  
Prodr. 7, p. 384; Gand., Bot.  
Voy. Bonite, t. 45.

Var. B. Kaigensis: racemo pu-  
berulo; calycis viscosi lobis  
~~transversis~~ brevioribus <sup>i.e.</sup> tubo  
paullo longioribus.

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Hab. Sandwich Island; moun-  
tains of Oahu, with the prece-  
ding, not flowering. Var.  $\beta$ , Moun-  
tains of Kauai.

In the very good figure of  
this striking species which Gan-  
dichand has given, as to the  
Oahu plant, <sup>(in many parts)</sup> that the thick  
stem, covered with cicatrices, is  
a foot high; the leaves crowded  
at ~~the~~ its summit are coria-  
ceous, linear or lanceolate, from  
4 to 8 inches long, nearly veinless;  
the narrowly revolute margins entire  
or obscurely denticulate; the mid-  
rib beneath often strigosely hir-  
sute. Some of this hairiness is  
represented in Gandichand's figure.  
(in Gandichand's plant)  
The capsule is dehiscent at the  
conical free summit.

The variety from Kauai



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produces leaves a foot long and  
an inch or more wide; the  
raceme, compressed-uncipital  
pedicels and flowers like those  
of *L. Gaudichaudii*, except that  
the former puberulent, and the  
lobes of the "viscous" calyx are  
shorter and proportionally broader,  
being triangular-oblong and 3 or  
4 (instead of 5 or 6) lines long, <sup>turbinate</sup> in  
both. They are deciduous from the  
forming fruit. The "showy, broad,  
and curved corolla" is said to be  
"pale, with pink veins".

14. *Lobelia neriiifolia*, Sp. Nov.

L. caule fruticoso crasso me-  
dulla farcto; foliis confertis lan-  
gato-linearibus utrinque angus-

72  
latis in petiolum attenu-  
atis coriaceis transverse ve-  
nosis margine integerrimo  
revolutis supra glabris subtus  
incanis; racemo virgato densi-  
floro; bracteis calicis lobisque  
calycis subulato-setaceis;  
corolla rectiuscula carnea,

Itab, Sandwich Islands;  
on the mountains of the East  
Division of Mani, also on the moun-  
tains of Kanal, according to Dr. Pickering's memoranda.  
The L. mericifolia of Morris  
being a synonym of L. or Tupa  
salicifolia, that name is free  
to be used for the present remark-  
able species. The plant evi-  
dently has a thick stem or  
erect caudex, like that of L.  
Gaudichaudii, but its size is  
not recorded. The leaves are a  
foot or less in length, only 4 or 6



lines wide, of a firm texture,  
veined in the manner of *Merium*,  
the lower surface whitened with  
a fine and close-matted down.  
The <sup>dense and</sup> virgate raceme sometimes  
has a short pithy axis. Bracts  
about an inch long, mostly  
exceeding the flattish pedicels,  
setaceous or nearly so. Lobes of  
the calyx <sup>narrowly</sup> ~~setaceous~~ subulate, longer  
than the <sup>pubescent-caryophyllous</sup> ~~turbinate~~ tube. Corolla  
an inch long, narrow, "deep blue",  
rather slender, cleft ~~down one side~~  
in the manner of the genus, the  
two upper lobes at length nearly  
separate, narrowly linear. Two  
at least of the anthers bearded at  
the tips. Capsule turbinate, 3 lines  
long, rather longer than the chiefly  
persistent calyx-lobes, <sup>two-celled</sup> ~~five~~ dehiscent  
through the short, obtusely conical



75  
vertex, at ~~length~~ length partly  
four-valved, seeds oblong, com-  
pressed, smooth, wingless. - The  
fruit-bearing raceme of the col-  
lection is of a former season;  
another, in flower, has unfor-  
tunately been almost consumed  
by insects. The leaves, ~~although~~  
although vastly larger, bear  
considerable resemblance to  
those of L. rosmarinifolia Presl,  
Diphycampyus rosmarinifolius,  
Don.

15. Lobelia (Tupa) salicifolia, Sweet.

16. Lobelia (Tupa) polyphylla, <sup>Hook.</sup> ~~Hook. &~~

Citab. Chili, in the vicinity  
of Valparaiso.

77  
10. Siphocampylus, Pohl.

1. Siphocampylus betulifolius, Don.

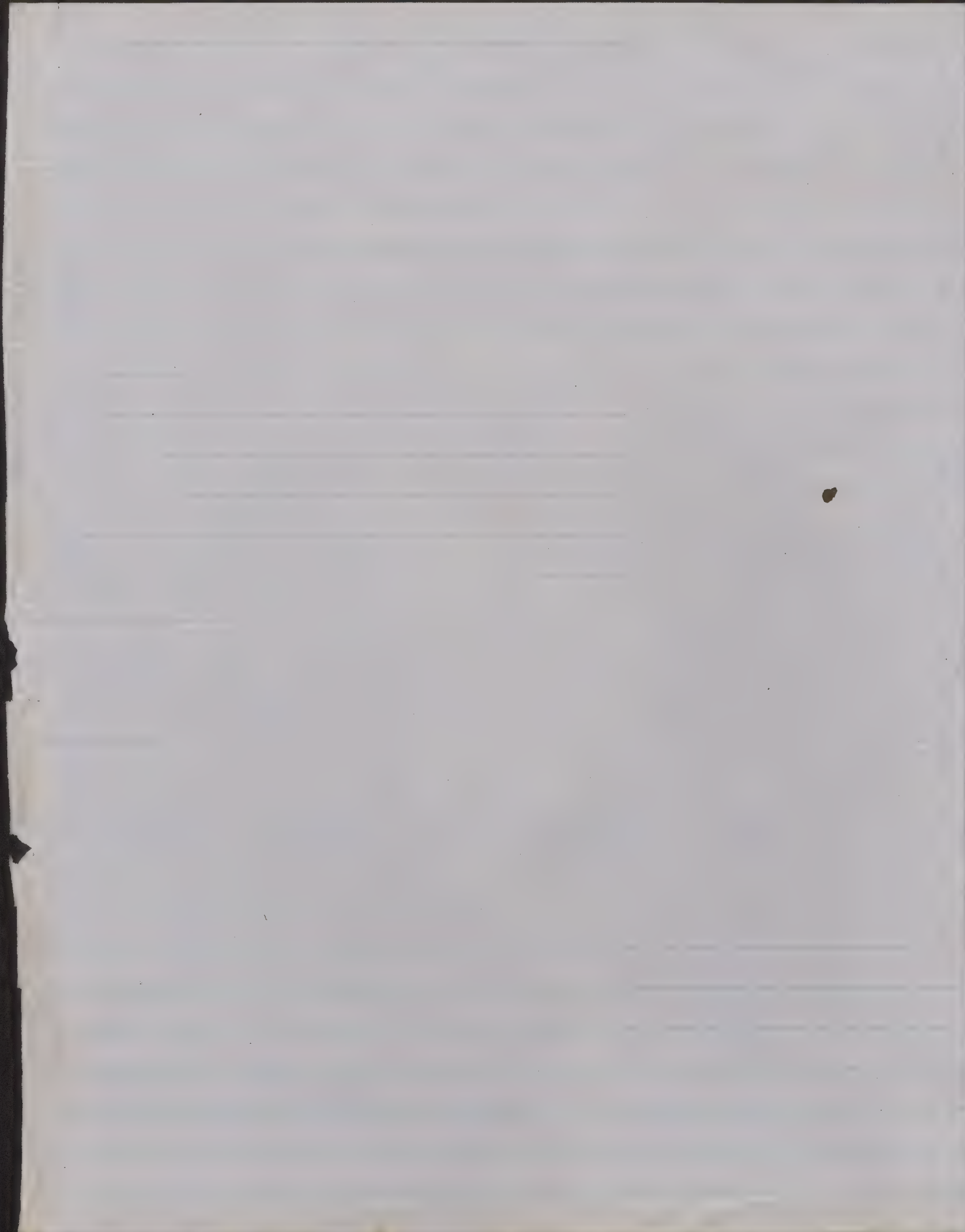
Hab. Brazil, in the Organ  
Mountains near Rio Janeiro.

11. Isotoma, Lindl.

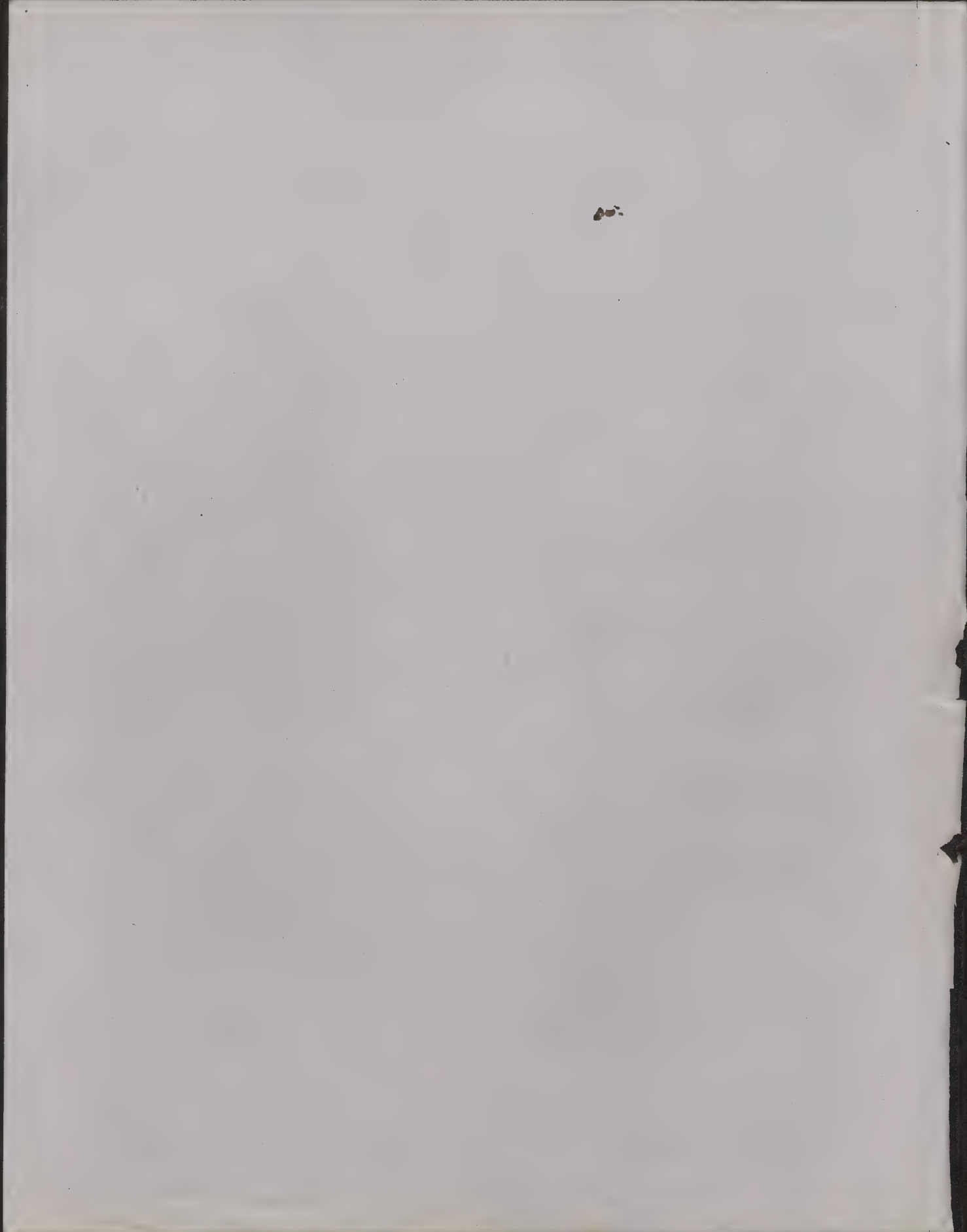
1. Isotoma senecioides, A. DC.

Hab. Hunter's River, New  
South Wales.

In Kermadec's Sandwich Island Collection  
(no. 309 ter, from Kauai or Nihaue) is  
a wholly new and striking Isotoma,  
with fleshy stems and large obovate  
entire leaves, which will probably be  
described by the Parisian botanists.







Panel V 92

Epitaph to Elizabeth





The italicising marks in the English  
descriptions in this list are to be dis-  
regarded by the compositor,  
A.G.

The Sandwich Island appears to be  
revised in accordance with the notes  
printed in *Proceed. Amer. Academy*  
1862-2.

Ord. Ericaceae.

Subord. I. Vaccinieae.

1. Vaccinium. Linn.

1. Vaccinium. Maderense, Link.

Tab. Madeira; at the elevation of about 3000 feet above the sea.

This species and the allied V. Arctostaphylos, enumerated by Klotzsch, in Linnaea, 24, p. 65, among the "non satis notae," having simply five-celled berries, awnless anthers, and at length campanulate corollas, must be referred to the section Vitis Idaea, notwithstanding their deciduous leaves. The tubes of the anthers are remarkably long.

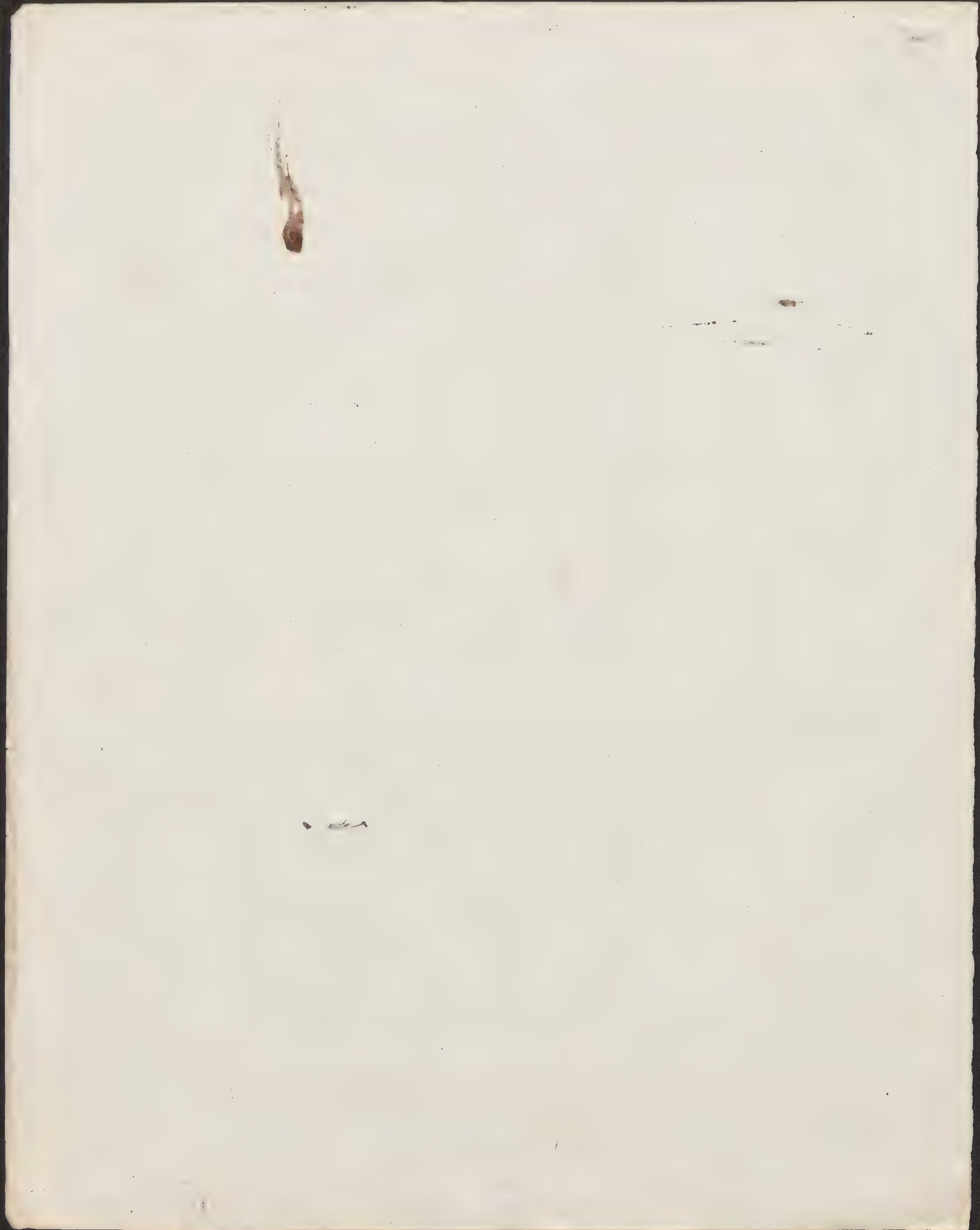
2. Vaccinium cereum, Forst.

V. foliis confertis rotundis ovalibusve mucronatis callosis serratis coriaceis reticulato-venosis glabris; pedunculis axillaribus foliis brevioribus infra medium bibracteolatis; calycis lobis <sup>triangulatis</sup> ~~acutis~~; corolla urceolato-cylindrica quinqueangulata; antheris basi minute mucronatis, ~~praeaequalibus~~ ~~tubulis~~ ~~antherarum~~ loculis ~~parallelis~~ ~~brevi-~~









3  
celled. Berry five-celled, with no trace of dorsal false partitions, globose, black; the cells many-seeded, seeds angled by mutual pressure, impressed-punctate.

This appears to be specifically distinct from the common species of the Sandwich Islands, which Chamisso and Schlechtendal, and afterwards Sir Wm. Hooker, have referred to N. cereum. The Vaccinium of the Society Islands, besides its more urceolate corollas, has shorter and bi-bracteolate peduncles, very acute calyx lobes, the anthers mucronulate at the base, and their tubular horns not much surpassing the dorsal anis, - all characters which are foreign to N. reticulatum.

Mitthall's genus Metagonia is equivalent to Klotsch's sections Macropelma (of the Society and Sandwich Islands), Distigma, Neurodesia, and a part of Nitis-Idea, including a variety of species, which, however distributed into groups, cannot properly be removed from Vaccinium. The dorsal anis of the anthers in the section Macropelma are not always erect; in N. cereum they are sometimes (perhaps abnormally) reflexed.

4

3. Vaccinium reticulatum Smith.

V. foliis confertis cor plerumque  
 coriaceis <sup>reticulatis</sup> obovatis subrotundis oblan-  
 gisve callosis mucronatis glabris vel  
 glabratis; pedunculis axillaribus  
 strictulatis max recurvis; calycis  
 lobis <sup>magnis sublan-  
 gatis</sup> ~~oblongis~~ <sup>seu</sup> ~~obtusis~~ <sup>obtusis</sup>  
 corolla primam orato-erica demum  
 cylindracea 3-4-plo brevioribus; an-  
 theis basi muticis, tubulis quam  
 loculi longioribus aristas dorsales  
 multum superantibus.

Var. a: foliis rigide coriaceis obo-  
 vatis <sup>ovalibus</sup> ~~vel~~ <sup>vel</sup> rotundatis saepe glaucis  
~~et~~ glaucescentibus raro nitidulis  
 angute serrulatis glabris vel nudis  
<sup>pedunculis</sup> ~~ramulis~~ <sup>ramulis</sup>que pubescentibus; pedunculis  
 saepissime folio brevioribus. — audit  
 1. <sup>glaberrima glauca</sup> foliis rotundatis crassis integerr-  
 imis, rariusve serrulatis apice vix



5  
mucronulatis vel muticis basi  
saepe retusis cordatisve; 2. pe-  
dunculatis folio longioribus pen-  
dulis.

Vaccinium reticulatum, Smith  
in Rees. Cycl. no. 30; Don Syst.  
3. p. 857.

V. cereum, Cham. & Schlecht. in  
Linnaea, 1. p. 527; Hook. 2c. Pl.

<sup>t. 87. non Forst</sup>  
V. Maackianum, Klotzsch, in Linnaea, 24. p. 59.

Var.  $\beta$ . Calycinum: ~~foliis~~ <sup>foliis</sup> elatius,  
laxum, sylvicolum; foliis te-  
nuioribus, novellis membranaceis,  
adultis chartaceis vel subcoria-  
ceis apice serrulatis; aristis  
antherarum saepius brevissimis  
~~quoadque~~ vel fere obsoletis.

Vaccinium Calycinum, Smith,  
l.c. no. 7; Don, l.c. etc.

V. Meyerianum, Klotzsch in  
Linnaea, 24. p. 59. (V. cereum,

Malp. Rel. Meyen. p. 360.)  
Metagonia Calycina, Nutt. in  
 Trans. Amer. Phil. Soc. n. ser.  
 8, p. 264.

Var. γ. dentatum; foliis argutissi-  
 me serrulatis <sup>(setaceo-  
 vel)</sup> serratis obovatis  
 oblongis ~~ae~~ plus minus coriaceis;  
 corolla brevior ~~magis~~ subcam-  
 panulata calycis lobos 2-3-  
 tantum superante.

Vaccinium dentatum, Smith, l. c.,  
 no. 31.

V. cereum L. Hook. & G. Pl. l. c.; Dunal  
 in Ob. Prov. 7, p. 575.

Var. δ. lanceolatum; foliis  
 latiuscule lanceolatis, c. et.  
 fere γ.

12

12 12 12 12 12



7

Tab. Sandrich Island; chiefly on the mountains; ~~the~~ <sup>f</sup> chiefly at high elevations and around the craters, but also in exposed places at a lower level; the var.  $\beta$ . in the forest-region. Var.  $\gamma$ .? on the Tabular Summit of Kauai; foliage only, so that it may prove to be a distinct species or a variety of the following species.

The Ohelo of the Hawaiians is an extremely polymorphous plant, varying from "a shrub of medium size", <sup>or</sup> "sometimes even twenty feet high" with a trunk three inches in diameter in the forest region, often "epidendric on the branches of trees in the deep forest of Mouna Kea", to a prostrate or spreading shrub, a few feet or ~~even~~ only a few inches in height at the elevation of 9000 to 11,500 feet; the flowers greenish and reddish; the berry

globular, or rarely ovoid-urceolate,  
 about 4 lines in diameter, purple,  
 red, yellowish, or glaucous-blue,  
 "astringent" or "agreeably subacid"  
 5-celled, many-seeded, crowned with  
 the conspicuous persistent calyx.  
 I detect no stable characters for  
 separating any of the various forms  
 as species; and there are forms which,  
 referred to var.  $\gamma$ , by their authors,  
 throw doubt upon the distinctness  
 of the next species. Of Smith's  
 three species the name N. reticulata  
Turn is adopted in preference to N.  
calycinum, <sup>founded on a</sup> ~~which belongs to a~~  
 thin-leaved forest-grown form, which  
 future botanists may perhaps find  
 reason to distinguish, although I  
 cannot.



9  
4. Vaccinium penduliflorum, <sup>Gaud.</sup>

V. glabrum; ~~laevigata~~ <sup>oblongis</sup> foliis lucidis  
coriaceis utrinque ~~eximie~~ retic-  
ulato-venosis acutissime serratis;  
pedunculis axillaribus ebracteatis  
nunc ~~mutantibus~~ vel ~~secundis~~  
pendulis folio longioribus;  
calycis lobis <sup>sem. triangulari-</sup> ovato-lanceolatis  
acutiusculis corolla cylindra-  
ceo-campanulata paullo vel  
dimidio brevioribus; antheris  
basi calcarato-cuspidatis, tubulis  
quam loculi aequilongis aristas  
dorsales, 2-3-pto superantibus.

Vaccinium penduliflorum, Gaud.

Bot. Voy. Freye, p. 454, t. 68;

Druel in Bl. Prov. 7, p. 575.

Metagonia penduliflora, Nutt. l.c.

Var. berberifolium: foliis obovatis  
seu obovato-oblongis ~~eximie~~ retic-  
ulatis <sup>magis</sup> ~~eximie~~ ~~pectinatis~~ dentibus



Spinuloso-setaceis (pulcher rime  
pectinatis; pedunculis folia haud vel vix  
excedentibus.

Sandwich Island.

(Tab.) Var.  $\beta$ . E. Macii, on  
North flank of Moma Haleakala,  
at the elevation of 6700 feet. "Also  
on the mountains of Oahu behind  
Honolulu", where Gandichand  
collected his N. penduliflorum.

Apparently a low and spreading  
shrub. Remarkable as is ~~this place~~  
our plant for its Barberry-like,  
pectinately spinulose-toothed and very  
reticulated leaves, yet a form of N.  
reticulatum var. dentatum from  
Moma Kea ~~too~~ nearly imitates it  
in these respects and even in the  
shortness of the corolla. I place  
more reliance, therefore, upon the  
spur-like cusp, or strong mucro  
of the base of the anther; and this,  
although not mentioned by Gandi-

found in his brief character of N.  
panduli florum, is plainly repre-  
 sented in figure 4 of his plate, The  
~~latter~~ serratures of the leaves ~~in his~~  
<sup>of the latter</sup> ~~plant~~ are not elongated as in our  
 plant.

2. Gaylussacia, N. B. K.

1. Gaylussacia imbricata, Pohl.

Gaylussacia imbricata, Pohl. Pl. Brasil. 2, p. 40, t. 146;  
Dunal, in Sb. Prodr. 7, p. 556.

Hab. Rio Janeiro, Brazil. (Cult. in the Botanic  
Garden.)

Subord. II. Ericineae.

3. Pernettya, Gaud.

1. Pernettya mucronata, Gaud.

Pernettya mucronata, Gaud. in Ann. Sci. Nat. 5, p. 102;  
Sb. Prodr. 7, p. 587; Humb. & Jacquinot, Voy. Brit.  
Voy. Pole Sud, t. 22; Hook. f. Fl. Antarctic. p. 327.  
Abutus mucronata, Linn. f. Suppl. p. 239; Forst.  
in Comm. Goett. 9, p. 31; Lam. Ill. t. 366; Graham,  
in Bot. Mag. t. 3093; Lindl. Bot. ref. t. 1675;  
Lodd. Bot. Cab. t. 1848.

Hab. Grange Harbour, Fuzgia: very abundant.

A shrub of sometimes 3 or 4 feet in height; the berries  
large, purple, and edible.



2. Perrettia pumila, Hook.

Perrettia pumila, Hook. Ic. Pl. t. 9; Seb. l. c.; Humb.  
& Jacquinot, l. c. t. 22; Hook. f. l. c.

Arbutus pumila, Linn. f. l. c.; Forst. l. c.

Var.  $\beta$ . empetrifolia, Hook. f. l. c.

Perrettia empetrifolia, Gaud. in Ann. Sci. Nat. l. c. &  
Bot. Frey. Voy. p. 454, t. 67; Seb. l. c.

~~Arbutus empetrifolia, Linn. f.~~

Andromeda empetrifolia, Lam. Dict. 1, p. 154; Willd.  
Spec. Pl. 2, p. 609.

Hab. Orange Harbour, Fuegia; common on the  
mountains.

4. Gaultheria, Kalm.

1. Gaultheria microphylla, Hook. f.

Gaultheria microphylla, Hook. f. Fl. Antarc. p. 327, t. 116.

Arbutus microphylla, Forst. in Bonn. Goe'te. 9. p. 32; Willd.  
l. c.

A. perpyllifolia, Lam. Dict. 1, p. 228.

Perrettia perpyllifolia, Seb. Prodr. 7, p. 587.

Hab. Orange Harbour, Fuegia: not uncommon.

2. Gaultheria antipoda, Forst.

Gaultheria antipoda, Forst. Prodr. p. 34; A. Nich.  
Fl. N. Zed. p. 210, t. 28; Lib. Prodr. 7, p. 594; Hook. f.  
Fl. N. Zed. 2, p. 161.

G. antipoda & G. fluvialis, A. Bunn. Bot. N. Zed. ex  
Hook. f.

Stat. New Zealand, at the Bay of Islands. (With a haccate and with a dry calyx on the same specimens.)

3. Gaultheria (Diplycosia) Luzonica. sp. nov.

G. foliis ovalibus utrinque acuminatis, supra glabris subtus  
~~ramulisque~~ ramisque novellis parce strigoso-hispi-  
dis; pedunculis fasciculatis petiolo longioribus; bracte-  
is connatis orbiculatis.

Stat. In the Majajai Mountains, Luzon. (In fruit.)

This appears to differ specifically from either of the three described Luzonense species. Diplycosia  
~~Diplycosia~~ latifolia, Blume, or  
Amphicalyx latifolius, Blume, as described by Hasskarl,  
Pl. Jav. Rar. p. 469, is said to have very glabrous leaves;  
pedicels only <sup>French</sup> 2 lines long, ~~and~~ equalling the petiole, and a  
<sup>calyculus of</sup> ovate acute bractlets. In our plant, the oval leaves (2  
to 2½ inches long) are cuspidately acuminate and also tapering  
at the base, rigid, <sup>coarsely</sup> very, glabrous above, sparsely strigose-brist-  
ly underneath, as are the young branchlets. They <sup>hispid</sup> fructiferous

1871

1871	1872	1873	1874	1875	1876	1877	1878	1879	1880
1871	1872	1873	1874	1875	1876	1877	1878	1879	1880



peduncles, in fascicles of 4 or 5, are half an inch long, and much exceed the petiole: they bear at their apex a pair of ~~connate~~ small, connate orbicular and obtuse bractlets. ~~Flowers~~ Corolla and stamens not seen. In fruit the 5-cleft calyx is baccate and invests the pericarp, which indeed appears to have been itself somewhat fleshy in texture; it dehisces, however, ~~into~~ pretty regularly into 5 valves, which are ~~pretty~~ rather fragile and thin when dry: the dissepiments are thin and evanescent, leaving a central columella with ~~the~~ thick 5-lobed placenta. Seeds ovate-angled; the thin and shining testa conformed to the nucleus. — The presence or absence of awns to the anthers appears to be <sup>no more important</sup> in the Andromeda than in Vaccinium. <sup>The awns are wanting in one of the</sup> ~~The North American Gaultheria Myrsinites, Hook. Nor. is not only awnless~~ ~~anthers, but~~ species of Gaultheria.

5. Clethra, Linn.

1. Clethra arborea, Kit.

Clethra arborea, Kit. Hort. Kew. 2, p. 73; Sims. Bot. Mag. t.  
1057; Vent. Hort. Malm. t. 40; DC. Prodr. 7, p. 589.

Hab. Madeira.

2. Clethra Brasiliensis, Cham. & Schlecht.

Clethra Brasiliensis, Cham. & Schlecht. in Linnaea, 8, p. 540;  
DC. l. c.

Hab. Brazil; in the Organ Mountains.

b. Erica, Lin.

1. Erica scoparia, Lin.

Stat. Madeira.

2. Erica arborea, Lin.

Stat. Madeira.

3. Erica cinerea, Lin.  $\beta$ . Maderensis, Benth.

Erica cinerea,  $\beta$ . Maderensis, Benth. in Sc. Prodr. 7, p. 666.

Stat. Madeira; on the summit of Pico Ruivo.

4. Erica Plukenetii, Lin.

Stat. Cape of Good Hope, in the neighborhood of Cape Town.

5. Erica mammosa, Lin.

Stat. Cape of Good Hope; with the preceding species.



6. Erica coccinea, Berg.

Hab. Cape of Good Hope, in the neighborhood of Cape Town.

7. Erica cerinthoides, Lin.

Hab. Cape of Good Hope.

8. Erica tenuifolia, Lin.?

Hab. Cape of Good Hope. (Destitute of flowers.)

9. Erica corifolia, Lin.

Hab. Cape of Good Hope, near Cape Town.

10. Erica teretiuscula, Vahl.

Hab. Cape of Good Hope; with the preceding.

11. Erica planifolia, Lin.

Hab. Cape of Good Hope.

12. Erica persoluta, Lin.

Stat. Cape of Good Hope.

13. Erica pallida, Salisb.

Stat. Cape of Good Hope.

7. Simoechilus, Klotzsch, Benth.

1. Simoechilus depressus, Benth.

Stat. Cape of Good Hope, in the neighborhood of Cape Town.

8. Salaxis, Salisb.

1. Salaxis Sieberi, Benth.

Salaxis Sieberi, Benth. in Seb. Prodr. 7, p. 711.

Stat. Cape of Good Hope.

9. Empetrum, Linn.

1. Empetrum rubrum, Vahl.

Hab. Orange Harbour, Is. <sup>Tuegia</sup>,  
"every where in great profusion", taking  
the place of E. nigrum of the nor-  
thern hemisphere.

The genus may best be considered,  
in accordance with Jussieu's views,  
as an <sup>form of</sup> apetalous Ericaceae.



Ord.      Epacridaceae.

1. Styphelia, R. Br.

1. Styphelia longifolia, R. Br.
2. Styphelia angustifolia, DC.
3. Styphelia lata, R. Br.
4. Styphelia triflora, Andr.
5. Styphelia viridis, Andr.

Stat. New South Wales, in the vicinity of Sydney.

2. Astroloma, R. Br.

1. Astroloma humifusum, R. Br.

Stat. Near Sydney, New South Wales.

3. Melichrus, R. Br.

1. Melichrus rotatus, R. Br.

2. Melichrus urceolatus, R. Br.


Stat. Hunter's River, New South  
Wales; the latter without flowers or  
fruit.

4. Gyathodes, Labill., R. Br.

1. Gyathodes acerosa, R. Br.

Stat. New Zealand, at the Bay of  
Islands (In fruit.)

~~2. Gyathodes~~



2. Cyathodes Pomar. sp. nov.

C. fruticosa, erecta; foliis subpatulis oblongo-linearibus mucronatis margine integerrimis (<sup>novellis</sup> ~~junioribus~~) prope apicem ciliatis) subtus glaucis multinerviis, nervis extimis subramosis; sepalis bractedisque <sup>rotundatis</sup> ~~orbiculatis~~ subciliatis; corollae tubo calycem bis superante, lobis imbricatis; stylo subulato ovario 5-7 loculari triplo longiore.

Hab. On the mountains of Tahiti, Society Islands.

A shrub, apparently 2 or 3 feet high and upright, very leafy; the younger branchlets minutely minute-pubescent. Leaves rather spreading, <sup>rigid</sup>, scarcely petioled, 4 to 6 lines long, one to 2 lines wide, abruptly cuspidate-pointed, smooth, green and shining above, glaucous-white underneath and many-nerved underneath, the (7-13) <sup>exterior</sup> nerves more or less forked or branched (~~at least the exterior ones~~) towards the apex; the acute callous margin entire, and smooth, except near the apex, when it is minutely serrulate ciliate. Flowers solitary in the axils of the upper leaves; the very short peduncle imbricated with bractlets which resemble the sepals, except that they are somewhat smaller. Sepals 5, round-ovate, thick, obscurely nerved, minutely and inconspicuously ciliate. Corolla with a cylindrical tube (2½ lines long) of about twice the length of the calyx; the 5 subulate-triangular lobes beardless and glabrous, spreading, about half the length of the tube. Filaments short, inserted below the sinuses of the corolla: anthers linear-oblong, fixed near their summit and pendulous. Pollen manifestly ~~compound~~ <sup>four-lobed</sup>.



2  
Disk sessile in the calyx, cyathiform, five-toothed. Ovary 5-7-celled; the ovules solitary in each cell, tapering into a thick and subulate style of thrice its length: stigma terminal, obtuse. Drupe globose, 3 lines in diameter, dark red; the pericarpium 5-7-celled, or by suppression of fewer cells. Seed.

Embryo

Dr N. Pickering's notes this plant is either omitted or not distinguished from the specimens gathered on Eimeo, and <sup>apparently</sup> ~~perhaps~~ also on Tahiti, which ~~I cannot~~ Dr. not differ, so far as I can see from some forms of the variable Hawaiian *C. Tameiameie*. The present plant has larger flowers as well as leaves, the tube of the corolla exerted beyond the calyx, and a longer style. Mr. Brown long ago mentioned that (Proc. Z. N. Holl. p. 539) that there is a Tahitian species of the genus; but the plant seems to have been unnoticed ~~since~~ from the time of Cook's voyages to our own Expedition. ~~I suspect~~ <sup>Probably</sup> ~~that Mr. Brown~~ <sup>the</sup> plant referred to by Mr. Brown belongs to the following species, which is apparently not rare near the coast, rather than to the present, which <sup>seems to inhabit</sup> ~~probably belongs~~ to the higher mountains. It is remarkable that no *Cyathodes* was collected either by Butters or Moerenhout, or at least none is mentioned by Guillemain in his *Zephyritis Taitensis*. The <sup>common Hawaiian</sup> ~~Land~~ ~~Island~~ species having been named in honor of a celebrated king of that island, the present species may ~~have~~ bear the scarcely less noted name of ~~Pomare~~ <sup>Tahiti</sup> queen Pomare.





3. *Cyathodes Tameiameia*, Cham.

*C. fruticosa*; foliis patulis oblongis cuneato-obovatis <sup>replicis abrupte</sup> linearibus mucronatis ~~et~~ <sup>marginibus</sup> ad apicem ciliolatis subtus glaucis multinerviis, nervis saepius ramosis, <sup>floribus parvis</sup> sepalis bracteolisque orbiculatis ciliolatis; corollae tubo calycem haud excedentibus, <sup>lobis aut barbatis aut imberbibus;</sup> stylo crasso ovario 5-8-loculari ~~vix longiore~~ aequilongo.

Var.  $\alpha$ . *Chamissoi*: corollae lobis intus plus minus barbatis.

*Cyathodes Tameiameia*, Cham! in *Linnaea*, 1, (1826) p. 539; Hook. & Arn. Bot. Beech. Voy. p. 89; DC. Prodr. 7, p. 741.

Var.  $\beta$ . *Banksii* ~~Banksii~~: corollae lobis imberbibus.

*Cyathodes Banksii*, Gaud. Bot. Freyc. Voy. (1826) p. 98? sine descr.

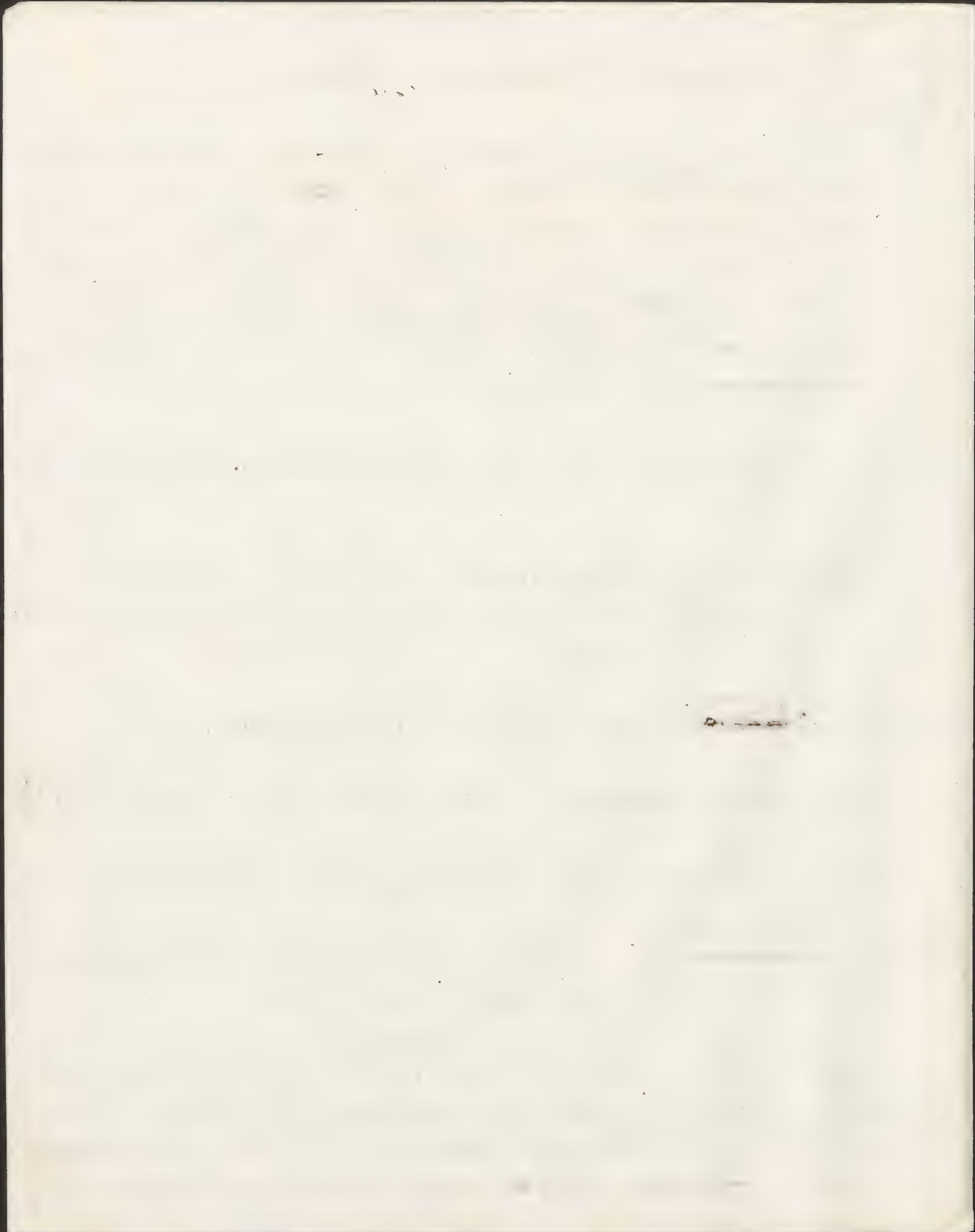
*C. Macraeana* & *C. Banksii*, DC. Prodr. 7, p. 742.

*Societatis*;

Var.  $\gamma$ . ~~*Societatis*~~: corollae lobis intus parvissime barbatis; foliis plerisque linearibus.

Hab. Sandwich Islands; <sup>in dry and exposed places</sup>  $\alpha$ . On the mountains of Oahu, where it has also been gathered by Nelson, Menzies, <sup>Gaudichaud,</sup> Chamisso, <sup>Henry,</sup> & Billie, Macrae, Barclay, &c.  $\beta$ . Mountains of Oahu, ~~Hawaii~~ Maui, and Kauai, and especially of

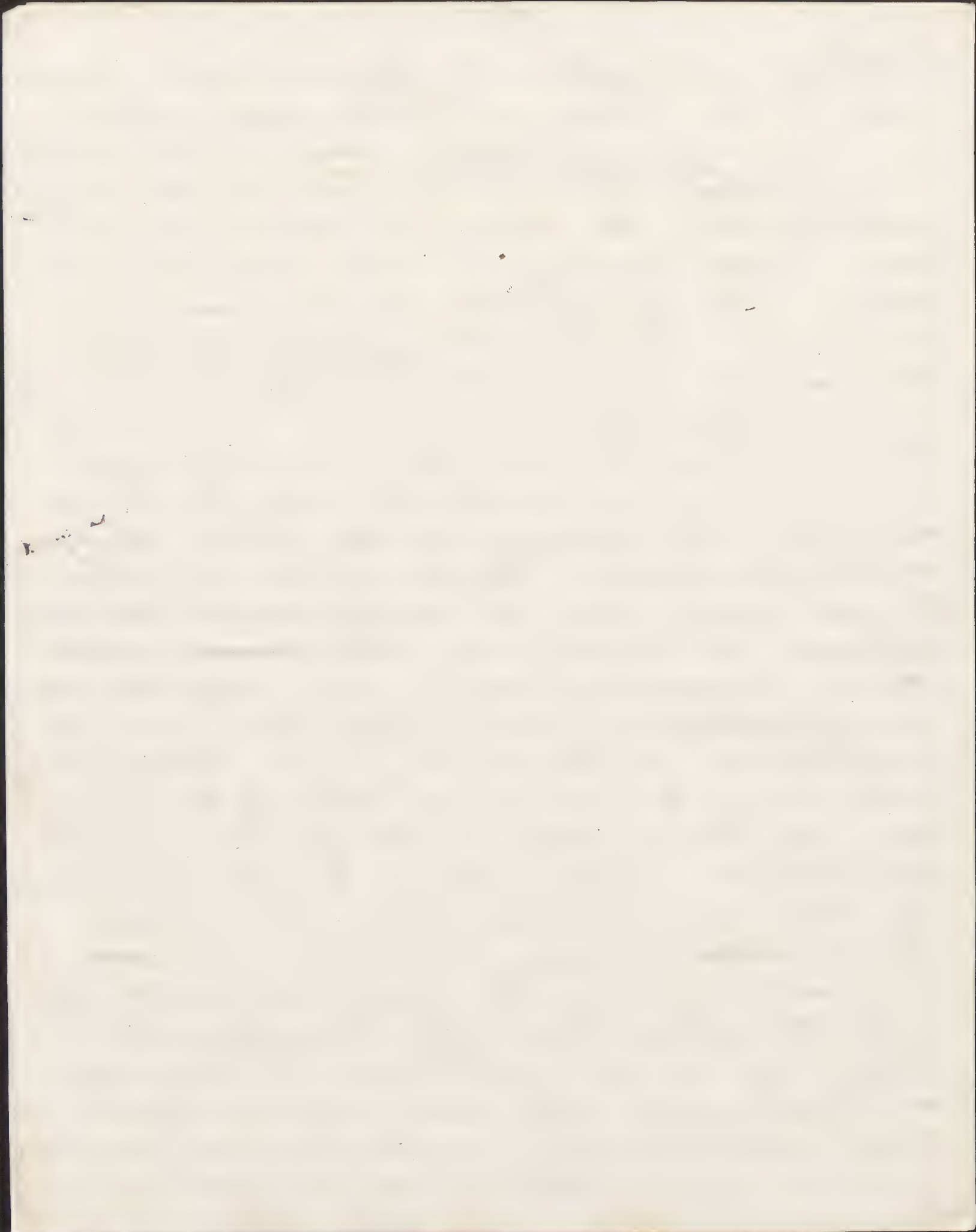




Hawaii; also gathered by Nelson<sup>?</sup>, Menzies, Macrae,  
Es. Es. J. Vimes and <sup>Dr. Pickering</sup> Tahiti, Society Islands.

- or in the forest sometimes attaining 15 feet in height

A <sup>ascending to</sup> shrub, of a foot or two in height, very leafy,  
much branched; the younger branchlets hirsute-puber-  
ulent. Leaves spreading, or on the older branches often  
reflexed, on the younger shoots sometimes ascending,  
varying from linear or oblong to cuneate-obovate,  
thick and coriaceous, persistent, <sup>somewhat</sup> ~~that~~ petiolate, 3 to 5 or  
even 6 lines long, from one to 2½ lines wide, mostly  
obtuse and abruptly mucronate or mucronulate,  
sometimes with a more conspicuous cusp; the thin and  
more or less callous margin ciliolate towards the apex,  
at least when young, otherwise entire and glabrous;  
the upper surface green and nearly nerveless; the lower  
glaucous and usually very white, ~~marked with~~  
striate with numerous nerves, which, except the central  
ones, fork or branch more or less above, especially  
in the broader and the obovate leaves. Flowers solitary  
in the axils of the leaves, small, <sup>scarcely</sup> ~~not~~ half the size of  
those of the preceding species, on short pedicels imbricated  
with bractlets. Sepals, like the bractlets, orbicular,  
very obtuse, minutely ciliate, about a line in length.  
Corolla ~~white~~? apparently white, about a line ~~and~~ or  
a line and a half long; the tube included in the calyx,  
about the length of the spreading triangular and acute  
lobes: these, in var. a (the original *C. Tameiameia*),  
are bearded inside with either a dense or sparse, short,  
hirsute pubescence, which in some specimens from Oahu  
is almost obsolete, while in all the Hawaiian species





(Var.  $\beta$ ; the *C. Macdoniana*, Lb.)

mens / the beard is wanting. ~~Rarely~~ Rarely the corolla exhibits 6 lobes: the aestivation, as in the tribe valvate. Stamens inserted just below the sinuses of the corolla: filaments about the length of the linear-oblong anthers, which are fixed near their summit. <sup>Pollen grains globose</sup> Disk cyathiform, 5-lobed. Ovary 5-8-celled, pointed with a thick and tapering or conical style of about its own length: stigma blunt. Ovules solitary. Drupe globose, 2 to 3 lines in diameter, red or purple; the putamen thick and bony, seeds oval, 5-8-celled; some of the cells often abortive. Seed oval, with a very thin testa.

<sup>5 longitudinal, oblong, linear-lanceolate, acute, 1/2 to 1/3 line long, brownish, sometimes reddish</sup>  
The specimens of var.  $\gamma$ , from the Society Islands, from Hawaiian states of this species; although the leaves are mostly narrower and more linear: each lobe of the corolla usually bears from 2 to 4 or 5 minute bristles in place of beard. Probably this, rather than the foregoing species, is the Tahitian plant mentioned by Mr. Adrien (Prodr. Fl. N. Holl. p. 534); and to our var.  $\beta$  is likely to belong both the Sandwich Island species to which he alludes. The foliage is so polymorphous that different forms would at first sight unhesitatingly be ~~referred to~~ ~~referred to~~ viewed as belonging to different species; but I have no doubt that they are here justly combined, and that the beard of the corolla in this case furnishes no reliable character.

3. *Cyathodes Tamiame*

4. Cyathodes Douglasii, sp. nov.

C. fruticosa; foliis <sup>(seu lanceolatis)</sup> suberectis oblongis <sup>(seu lanceolatis)</sup> acuminato-cuspidatis margine plerumque hispidulo-ciliatis subtus pallidioribus glaucisve 5-9-nerviis, nervis saepius simplicissimis; sepalis bracteisque ovatis obtusis ciliatis; corolla tubo calycem aequante, lobis intus barbatis; stylo subulato ovario sexloculari ~~duplo~~ bis terve longiore.

Var.  $\beta$ . struthioides: foliis erectis lanceolatis seu ovato-oblongis; sepalis acutis!

Hab. (Sandwich Islands, Douglas.) On Mouna Loa and Mouna Kea, Hawaii, and on the mountains of the eastern part of Maui.  $\beta$ . Mouna Kea, in the region of Sophora; and in the mountains of Kauai (the latter without flowers or fruit).

A low shrub, apparently either upright or diffuse, resembling some forms of the preceding species: but the leaves (3 to 5 lines long, and a line or a line and a half long) are more erect, or sometimes appressed, and imbricated, oblong, varying to ovate or lanceolate, but not to obovate, ~~tripped~~ ~~not~~ acuminate into a conspicuous pungent cusp, or almost awned; the acute margin scabrous-ciliolate or minutely hispid-ciliate throughout, at least when young, or above the middle; the lower surface paler or glaucous, but not so white as in the foregoing, 5-9-nerved, usually 7-nerved; the nerves simple and straight, or the



exterior ones occasionally branched. Flowers axillary, and terminal, about twice the size of those of C. Tameiameia. Bractlets and sepals ovate, obtuse, or the latter inclining to acute, finely ciliate. Corolla about 3 lines long; the cylindrical tube as long as the calyx; the lanceolate-oblong lobes bearded inside, usually densely so, as also is the throat. Stamens, disk, &c. as in the preceding. Ovary six-celled, tapering into a subulate style of twice or thrice its length. Drupe globose, or somewhat depressed, red, 3 or 4 lines in diameter, some of the cells often suppressed.

The var.  $\beta$ . is apparently lower and more slender, with the leaves commonly more appressed, and the sepals acute. Of the corolla only vestiges remain on the summit of the fruit; the lobes or the throat more or less bearded. It appears to pass insensibly into the ordinary forms of the species.

None of the specimens here combined accord with the C. Banksii, so imperfectly characterized by DeCandolle, and suspected to be scarcely distinct from his C. Macraena; for, although the leaves are more or less erect and <sup>rather</sup> ~~glabrous~~ <sup>sometimes</sup> glaucous-white beneath, they are ~~scabrous~~ rough and ciliate or serrulate-ciliate on the margin and the pungent point is mostly very conspicuous. The nerves also are commonly simple; but this character is not constant. Still the larger flowers and longer style should distinguish ~~this~~ all forms of this from the preceding species, unless that is even more polymorphous than I have supposed it to be.

[The above sp. = C. imbricata, Stoche  
glew in Bonn. mens. 32, p. 10, (1857)  
- (p. 2) in Engelm. 1, p. 10, (1857).

5. Lissanthe, R. Br.

1. Lissanthe subulata, R. Br.
2. Lissanthe daphnoides, R. Br.

Stat. New South Wales, in the vicinity.

6. Leucopogon, R. Br.

1. Leucopogon Richei, Db.
2. Leucopogon muticus, R. Br.
3. Leucopogon ericoides, R. Br.
4. Leucopogon virgatus, R. Br.
5. Leucopogon microphyllus, R. Br.
6. Leucopogon denudatus, Sieber.
7. Leucopogon appressus, R. Br.

Stat. New South Wales, in the vicinity of Sydney, Wodargong, &c.



7. Leucopogon appressus, R. Br. l. c.  
Stat. Port Jackson, New South Wales  
 \*\* Novo-Zelandici

8. Leucopogon Fraserei, A. Bunn.

Leucopogon Fraserei, A. Bunn, Bot. N. Zee. in Ann. \*  
~~Mag.~~ Nat. Hist. 2, p. 47 (1838); Hook. f. Fl. N. Zee. 1, p. 115,  
 non Lb. Prodr. 7, p. 752 (1839).

L. mesophilus, Lb. Prodr. 7, p. 752.

L. Bellignianus, Raoul, Pl. N. Zee. p. 18, t. 12.

Stat. Tiptona, New Zealand.

9. Leucopogon fasciculatus, A. Rich.

Leucopogon fasciculatus, A. Rich. Fl. N. Zee. p. 215; A.  
 Bunn. l. c.; Lb. Prodr. 7, p. 744; Hook. f. Fl. N. Zee. 1, p. 114.  
Epacris fasciculata, Forst. Prodr. Pl. Ins. Austr. p. 13.

Stat. Bay of Islands, New Zealand.



~~\*\*\* Polypogon \*\*\*~~

7. Leucopogon Vitiensis, sp. nov.

L. glaberrimus; caule fruticoso erecto; foliis lanceolatis utrinque attenuatis callosis-apiculatis concoloribus leviter nervatis margine levibus; spicis axillaribus brevissimis paucifloris; sepalis bracteisque nudis; stylo glabro; drupa obovata 4-5-loculari disco crasso cyathiformi improbita. demum clavato (285, vix Latill.)  
Leucopogon cymbulæ, Seem., Coll. Vitien., no. 1.  
Stat. Feeje Islands; at Enboa, Sandalwood Bay.

A shrub, 6 to 8 feet high, erect, glabrous throughout; even the rachis of inflorescence scarcely pubescent. Leaves crowded throughout the branches, <sup>3 to 4 lines wide,</sup>  $1\frac{1}{2}$  to 3 inches long, chartaceous, lanceolate, tapering toward both ends, especially toward the apex, which terminates in a slender callous point which is often sphaeculate, pale green, of the same hue both sides, but dull underneath, minutely nervose-striate under a lens, and marked above with 5-7 evident impressed nerves, which are seldom apparent underneath, plane or nearly so, the margins smooth and entire. Spikes axillary, very short (the squamose rachis  $\frac{1}{2}$  to 3 lines long, 3-5-flowered. Sepals and the pair of bracts naked and smooth, or the margin very obscurely ciliolate, broadly ovate, <sup>base, rigid,</sup> persistent. Corolla scarcely twice the length of the calyx; the lanceolate-oblong lobes as long as the tube, valvate in aestivation, villous-bearded

inside. Stamens 5, included, inserted in the throat of the corolla; filaments nearly the length of the oblong anthers. <sup>the base surrounded by an entire cyathiform disk:</sup> Ovary ovoid, 5-celled; style glabrous, short. Drupe obovate, dry, 4-5-celled, or by suppression one-celled, with a single seed in each cell, the disk and receptacle becoming enlarged, fleshy and clavate, so as to raise the mature drupe beyond the persistent calyx.

One species of this genus *L. pycnostegia*, Labill. inhabits New Caledonia, three are known in New Zealand,

This is the only truly Polynesian species known, excepting *L. cymbula*, Labill. of New Caledonia. Three species are known in New Zealand, one in Borneo, another in Malacca; the rest, about 100 in number, are all Australian.

41. *L. ...*



7. Monstoca, K. Br.

1. Monstoca elliptica, K. Br.
2. Monstoca seiparia, K. Br.

Hab. New South Wales, in the vicinity of Sydney.

8. Trochocarpa, K. Br.

1. Trochocarpa laurina, K. Br.

Hab. New South, in the vicinity of Sydney.

9. Epacris, (Forst.) Car., Smith.

1. Epacris pulchella, Car.
2. Epacris microphylla, K. Br.
3. Epacris longiflora, Car.
4. Epacris oblongifolia, Smith.



Stat. New South Wales, near  
Sydney. Of the last named there  
are two forms in the collection; one  
with broader, ovate-oblong or ~~ovate~~  
oblong-lanceolate leaves; the other  
with narrowly lanceolate leaves  
and smaller flowers; apparently  
quite distinct they are united  
through the ordinary states of the  
species.

5. Epacris pauciflora, A. Rich.

Stat. New Zealand, at the Bay  
of Islands.

10. Lysinema, R. Br.

1. Lysinema purgens, R. Br.

Stat. New South Wales, probably  
from the neighborhood of Sydney.

10. Spargelia, Smith.

1. Spargelia incarnata, Smith.

Stat. Hunter's River, New South  
Wales; the ordinary form, and the  
var. longifolia.

12. Priontes, Speng., R. Br.

1. Priontes Americana, Hook.

Priontes Americana, Hook. Ic. Pl.

t. 30; Hook. f. adn. in Fl. Antarc.

2, p. 849

Azulea hollata, Hook. in herb. Banks.

Alhodape Americana, Endl. Gen. p.

749; Walp. Repert. 2, p. 733.

Lebetanthus Americanus, Endl. Eich.

Bot. p. 368; Walp. Repert. 6, p. 432; Hook.

f. l.c. p. 327.

Jacquinia prostrata, Humb. & Jacq. Voy.  
Pole Ind. Bot. t. 22.

Stat. Orange Harbour, Zuegia;  
growing on the base of the trunks of  
trees on which the plant creeps,  
ascending to some height.

The only American representative  
of Epacridaceae; and said to imitate  
true Ericaceae in its two-celled  
anthers as well as hypogynous sta-  
mens. Although the flowers of our  
specimens are too far advanced for  
deciding the question, I suppose  
that the anthers are bilocellate  
rather than normally bilocular.

13. Dracophyllum, Labill.

1. Dracophyllum secundum, R.Br.

Stat. New South Wales, in the  
vicinity of Sydney.

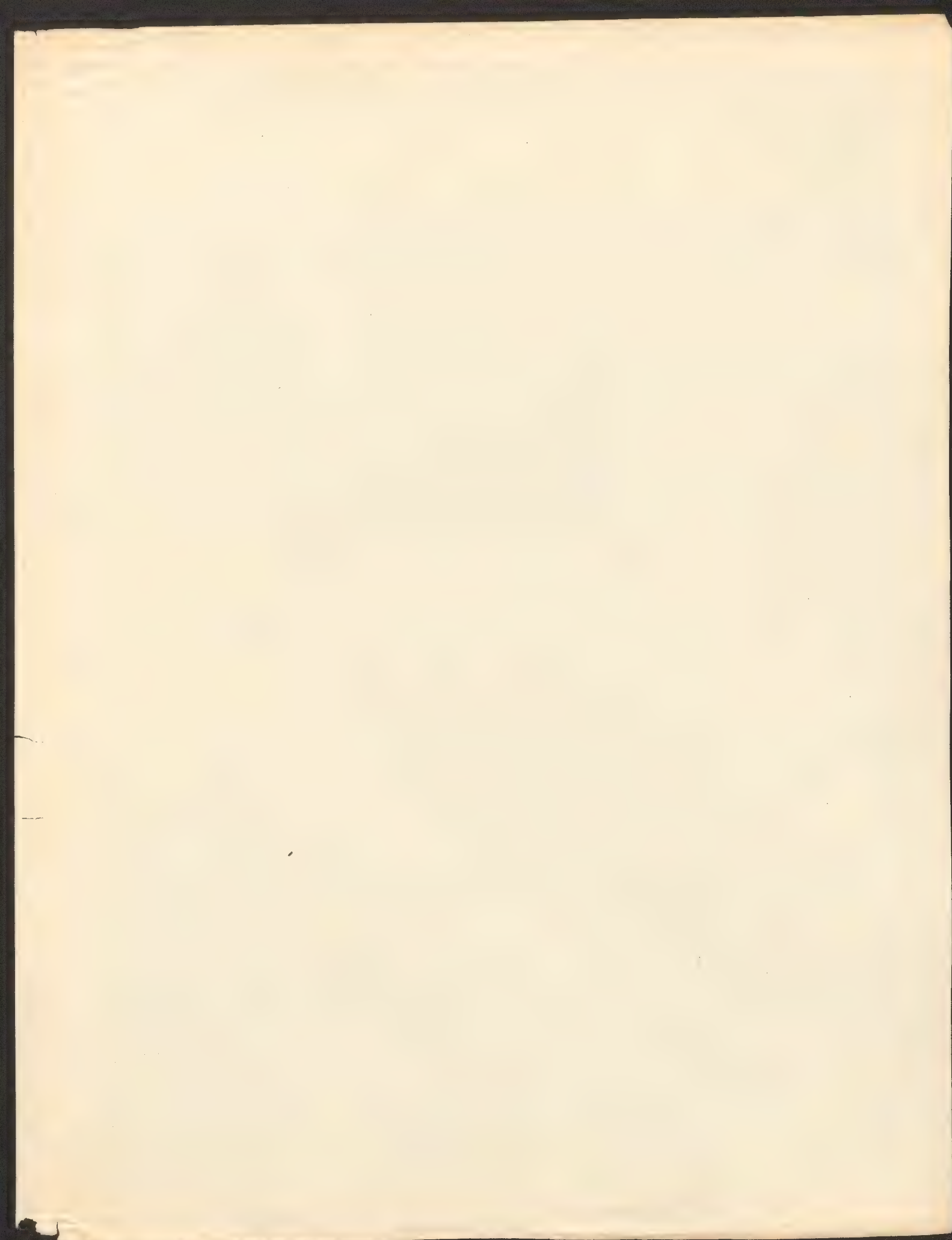


- 41
2. *Dracophyllum latifolium*, A. Cunn.
  3. *Dracophyllum Urvilleanum*, A. Rich.

~~*Dracophyllum Urvilleanum*, A. Rich. Fl. N. Z. ed. p. 224;  
A. Cunn. l.c.; Hook. f. l.c.~~

Hab. Bay of Islands, New Zealand.









17

Symplocos, Jacq.

(Tab. . . .)

1. Symplocos (Stopea) spicata, Roxb.

Var.  $\beta$ . subintegerrima: spicis saepe  
contractis; foliis plerumque sub=  
integerrimis, ~~forma~~ in parvifoliis  
2-3-pollicaribus, in grandifoliis 6-7-  
pollicaribus.

. Hab. Feejee Islands, at Sandalwood  
Bay, &c.

This was also collected by Dr.  
Scemann, ~~and~~ both with nearly entire  
and with serrated leaves, so that he  
without question refers it to the  
Indian, South Chinese, and Archi=  
pelagic S. spicata. I see no suf=  
ficient differences to justify a con=  
trary opinion. But our specimens  
are mostly entire-leaved or nearly  
so, and like Scemann's incline to have



2

abbreviated inflorescence. They show a great variety of forms, of which the best marked are, 1. One with coriaceous less-veined leaves only 2 or 3 inches long; 2, with larger, thin-membraceous, entire leaves, and the inflorescence rarely exceeding the petiole, probably growing in deep forest; 3, with large, oval, scarcely acuminate, subcoriaceous leaves, from 5 to 7 inches long. These three forms were figured by Mr. Rich, who probably regarded them as distinct species.

Plate . Symplocos spicata,  
Roxb. var. subintegerrima, 7 forma 1.  
A. Form 1. B. Form 2.  
Plate Form 3.

2, Symplocos (Stysea) candata, Wall.

Stat. Luzon, on the Majaijai  
Mountains, Accords well with Drs.  
Storker and Thomson's specimens from  
Khasia and Chittagong.

Navaa, Benth.

(parisicensis)  
 Char. auctus. Calyx 4-7. fidus, lobis triangulari-  
 oratis aestivatione leviter imbricatis. Petala lobis  
 calycis numero aequalia, hypogyna, ligulato-  
 longa, utrinque sericeo-puberula, aestivatione con-  
 voluto-imbricata, decidua. Stamina numero  
 petalorum dupla ~~sapius~~ vel sapius tripla  
~~aut~~ subtrippla, ab iis libera: filamenta plana,  
 linearia, basi glabra in tubum, disco hypo-  
 gyno cupuliformi tenui adnatum, monadel-  
 pha, superne libera intus barbato-villosissima,  
 apice acuto antheram bilocularem (loculis  
 longitudinaliter dehiscentibus) introtram fere basi-  
 fixam gerentia. Pollen globosum. Ovarium  
 ovoides, basi lata sessile, 3-4-loculare: Stylus  
 columnaris: stigma ~~pellatum~~ ~~apice depressum~~  
 3-4 radiatum. Ovula in loculis gemina,  
 angulo centrali prope basin inserta, collateralia,  
~~sub~~ adscendentia, subamphitropa, micropyle superi.  
 Bacca globosa, 3-4-locularis. Semina in locu-  
 lis abortu solitaria, rariusve bina, <sup>ovalia,</sup> ~~perispermia~~ adscen-  
 dentia, <sup>exaristata;</sup> testa lavi chartacea; hilo lineari chalazae  
 magnae basilari proximo; raphe brevissima.  
 Albumen nullum. Cotyledones carnosae, plano-  
 convexae, suborbiculares, sinu profundo cordatae,  
 radiculam gracilem superam prossus includentes.



5-7

Abuscula glabella; foliis simplicibus integerrimis alternis ovato-oblongis obsolete punctatis; stipulis nullis; pedunculis axillaribus multifloris; floribus cymosis parvis forte polygamis.

Navea, Benth. in Hook. Lond. Jour. Bot. 2, p. 212, et supra,  
1. p. 244, t. 16.

1. Navea Amicorum, Benth. (Tab. .)

Two specimens from the Feeje Islands, mostly in fruit, having been placed by Mr. Rich in Styrax, and figured apparently as a species of that genus, had escaped my attention until after the publication of the first volume of this work, in which this remarkable plant was described. The new materials, although scanty, afford the means, so much desired of completing the characters of Navea, which, as revised <sup>and extended</sup>, are accordingly given above. As respects the flowers, the only thing to add is, that in those borne by a small cyme on an otherwise fruiting specimen branch, the stamens, mostly 10 in number, are only twice as many as the petals, and are nearly of uniform length. These specimens are otherwise so similar that I cannot suppose them to belong to a second species; but, as the anthers are smaller and contain little pollen, it is quite probable that there is at least a polygamous tendency in the flowers, and that these belong to the more fertile plant. The fruit is a globose, apparently rather dry berry, of 4 or 5 lines in diameter, stipate by

the small persistent calyx, 3-4 celled by their dissepiments, which probably are sometimes obliterated, 3-4-seeded, or by abortion even one-seeded: sometimes two seeds are fertilized in the same cell. Seeds oval, 3 lines long, smooth, destitute of any arillus, ~~ascending~~ ascending from near the base of the cell, sessile, the linear hilum attached directly to the axis of the fruit, without any funiculus: testa chartaceous, or perhaps somewhat fleshy, its base <sup>occupied</sup> ~~marked~~ by a large orbicular chalara, which is connected with the hilum by an extremely short raphe; the hilum extending from near the base almost to the middle of the seed. Inner integument of the seed a little fleshy? Albumen none. The embryo seen is apparently not quite full grown: it consists of a pair of broadly oval or almost orbicular, <sup>or flat</sup> plano-convex, fleshy, plane, peltate cotyledons, which have <sup>and narrow</sup> a deep sinus at the radicular extremity; the slender and rather long radicle wholly retracted within the sinus, superior, remote from the hilum.

The whole structure of the seed and embryo (corresponding with those of most Trichiliae) manifestly confirms the <sup>suggested</sup> relationship of this genus to the Meliaceae; <sup>inside</sup> and the discovery that the stamens are sometimes only double the petals in number, reduces the flower to the type of that family. The hypogynous disk equally exists as a cup surrounding the ovary, <sup>most unlike that of Trichilia</sup> ~~as in~~ Staphylea &c., only here it is wholly adnate to the andracium. ~~It is by no means surprising, however, that Mr. Rich., who seems not to have investigated the seed, should~~



7

Wide Mem. Amer. Acad. n. ser. vol. 5,  
p. 229.

Plate

Navea Anicorum.

in plate and the plate





Thomas

Ord. Sapotaceae.

1. Lucuma, Molina.

1. Lucuma Valparadisea, Molina.

Lucuma Valparadisea, Molina, Hist. Chil. p. 162 & 334; Gay,  
Fl. Chil. 4, p. 376.

L. splendens, ~~Alph.~~ DC. Prodr. 8, p. 171.

Hab. Chili; in high ravines near Valparaiso.  
(In flower.)

2. Sapota, Plumier.

1. Sapota parvifolia, ~~Alph.~~ DC.

~~Sapota parvifolia, Alph. DC. Prodr. 8, p. 175.~~

Hab. Phillipine Islands; in the mountains of Baños,  
Luzon.

The leaves are rather broader than in Burnings's  
specimens, and <sup>rather</sup> ~~more~~ ~~rather~~ coriaceous; indeed they are  
hardly membranaceous in Burnings's plant.



2. Sapota? pyramifera, Sp. Nov.

S.? glabra; foliis oblongo-lanceolatis utrinque sub-  
acuminatis subcoriaceis pallidis tenuiter trans-  
versim venosis; calyce quinquepartito; fructu pyri-  
formi parvo pedicello<sup>unculo</sup> paullo longiore semine  
unico obovato turgido repleto.

Hab. Oralau, Feejee Islands.

The specimens bear fruit only. The leaves, as also the branches are entirely glabrous, oblong-lanceolate, somewhat pointed at both ends, 3 to 5 inches long, barely an inch and a half wide, on petioles of 5 or 6 lines in length, pale, rather coriaceous, (entire,) transversely veiny with slender and inconspicuous nearly straight veins, the veinlets minutely reticulated, at the margin confluent into a manifest false vein. Pedicels about 4 lines long, minutely ferruginous, mostly solitary in the axils. Flowers not seen. The persistent calyx barely 2 lines in diameter, five-parted; the segments orbicular, imbricated, ciliate. Fruit pyriform, half an inch long; the pericarp fleshy but thin in the dried specimens, one-celled, and filled with the single turgid-obovate seed. This is erect, 5 or 5½ lines long, the sides somewhat flattened; the testa very thick, bony, smooth and shining; the base acutish; the oblong-linear and somewhat oblique hilum occupying nearly the whole ventral face of the seed. Embryo in the axis of fleshy albumen; cotyledons broad and thin; radicle inferior.

3. Sapota? Vitiensis, sp. nov.

S.? glabra; foliis oblongis seu obovato-oblongis obtusis vel retusis base in petiolum longiusculum attenuatis subcoriaceis reticulatis; fructu sessili globoso 3-4 spermo.

Hab. Ovalau, Fiejee Islands; along the coast.

This is said to be a "shrub, about 12 feet high," with a large, green, sessile fruit. The flowers are unknown; even the calyx has ~~disappeared~~ fallen from the base of the fruit. The leaves resemble those of the preceding species, but are larger (4 to 6 inches long and  $1\frac{1}{2}$  to  $2\frac{1}{2}$  inches wide), either oblong or obovate-oblong, obtuse or rounded and retuse at the apex, the base ~~contracted~~ ~~fusiform~~ <sup>contracted</sup> into a petiole of an inch or more in length, the somewhat shining surfaces more reticulate-veined. The fruit is spherical, baccate, about an inch in diameter, and three-four-seeded. Seeds oblong, somewhat compressed; the smooth and shining long testis ~~marked~~ with a linear sulcate hilum occupying nearly its whole length. Those examined are empty. The plant is referred to Sapota from its resemblance to the preceding and the following species.

On Vanna-levu, another of the Fiejee Islands was gathered a specimen, apparently of another Sapotaceous plant; with oval and obtuse, coriaceous, obscurely transversely veined leaves, ~~and~~ short fructiferous peduncles as long as the petiole (an inch or more in length), and vestiges of an oblong, apparently 2-seeded fruit. The genus is not determinable from these materials.



4. Sapota Sandwicensis, Sp. Nov.

St. foliis elliptico-oblongis obtusis  
basi acutis tenuiter transversim  
venosis et reticulatis mox glabris  
novellis ramulisque <sup>tenui</sup> ~~pube~~ <sup>pube</sup> ~~ferre~~  
~~gine~~ seu albida tenuissima to-  
mentulosis, petiolo gracili pe-  
dicellis longiore; floribus penta-  
meris; corolla glabra calycem  
lobis ovatis acutiusculis;  
vix superante, ~~appendicibus~~ ~~seu~~  
staminibus sterilibus spatula-  
lato-lanceolatis cum 5 fertilibus  
subinclusis; ovario 5-loculari.  
— Var. a. foliis obtusissimis  
3-6-pollicaribus, petiolo saepe  
sesquipollicari.

Var. B. foliis  $1\frac{1}{2}$  - 3-pollicaribus  
saepe acutiusculis.



5

Hab. Sandrich Island, a, Oahu,  
on the Kaala Mountains, where it  
was also collected by Kemy, in fruit,  
as are our specimens. Var.  $\beta$ . La-  
nai and Hawaii (the latter mostly  
with acute or acutish leaves), in  
flower and with young fruit, Kemy.

A tree said by our collectors to  
be 30 or 40 feet high; the nascent  
shoots and foliage <sup>sericeous-</sup>~~finely~~ tomentu-  
lose, ~~with~~ the close and fine down  
either reddish ferrugineous or whitish,  
usually the former; this wholly  
deciduous from the older leaves,  
which are glabrous, and the up-  
per surface shining, the texture  
coriaceous, but thin in the large-leaved  
form, the venation in the manner  
of S. costata but with the primary  
veins ~~more~~ less strong. Peduncles  
solitary or fascicled in the axils, 4  
to 6 lines, or in fruit an inch in

length. Calyx 5-parted; the divisions  
ovate-oblong, rather obtuse,  
minutely pubescent. Corolla  
campanulate, glabrous, 5-cleft,  
entire. Anthers ovate-sagittate, mu-  
cronate. Ovary surrounded by  
long villous hairs, and above  
clothed with a finer pubescence,  
5-celled, with a single ascen-  
ding ovule in each cell; style  
short and thick. Fruit a glo-  
bose berry, resembling a small  
apple, an inch or more in di-  
ameter, ripening two or more  
thick seeds, the ~~scar~~ broad scar  
occupying almost the whole ~~length~~  
length of the ventral edge; testa  
very thick and hard. Embryo in the  
axis of the fleshy albumen, which  
is almost divided by the broad and  
foliaceous albumen; radicle inferior.



It is possible, but not <sup>at all</sup> probable,  
that the smaller-leaved spec-  
imens, which have supplied the  
floral characters, ~~are~~ may be of  
a different species from the larger-  
leaved and fructiferous ones. \* ~~the~~  
~~But the~~ forms mentioned in Dr. Pickering's  
~~plant~~ printed notes belong pretty clearly to ~~the~~  
same species. \*

\* The plant from Kauai, mentioned  
in Dr. Pickering's notes (Distribution  
of Plants, p. 403) in connection with  
the preceding, proves to be a Hyllos-  
ma, which was likewise collected  
on Hawaii by Kemy. ~~H. sandersi-~~  
~~ensis~~, Gray in Proceed. Amer. Acad.  
S. Sci. Most probably it is a mere  
variety <sup>the</sup> of <sup>(H. Lepidii, blous)</sup> H. macrocarpa of Tahiti,  
connecting with H. orbiculatum.



8

Sessalisia, R. Br.

1. Sessalisia glabra, sp. nov.

S. foliis obovato-oblongis basi attenuatis coriaceis glabris, venis reticulatis; pedicellis in axillis fasciculatis petiolo duplo longioribus; corolla calyce subsericeo paullo longiore campanulata quinquefida glabra, lobis rotundatis filamenta sterilia subulata multo superantibus stylo gracili ~~aequaliter~~ aequilongis.

Stat. New South Wales, near Moolongong.

There is a specimen of the same species in the Hookerian herbarium gathered by <sup>Mr.</sup> Backhouse; and a related one from Fraser, which is perhaps the Sessalisia laurifolia of A. Richard, ~~and the unpublished~~ as well as one from Cunningham, named Mimusops myrsinoides, which may be the same thing. In the present plant, the leaves are obovate-oblong or elongated-oblong, from 2 to 4 inches long, either somewhat pointed or obtuse, sometimes emarginate, tapering at the base into a short petiole of 2 or 3 lines in length, rather thin, but coriaceous, reticulate-veiny, somewhat shining, glabrous, as are the branchlets. Pedicels 2-5 in axillary fascicles, 3 to 5 lines long, minutely hairy. Sepals <sup>5</sup>, orbicular, strongly imbricated, two of them exterior, minutely silky-pubescent,  $2\frac{1}{2}$  lines long, a ~~corolla campanulata~~ little shorter than the campanulate glabrous corolla; the broad and rounded lobes of which are scarcely half the length of the tube, two of them exterior in aestivation, the innermost smaller than the others. Sterile filaments <sup>subulata</sup> 5, alternate with the lobes of

the corolla, much shorter than they, inserted just below the  
sinuses. Fertile Stamens, <sup>5</sup>, opposite the lobes of the corolla  
and inserted lower; filaments subulate, rather shorter  
than the subsagittate mucronate anthers. Ovary  
villous, five-celled; much shorter than the columnar and  
thunder style which is glabrous and as long as the  
corolla. Stigma truncate, obscurely five-lobed. Fruit  
not seen.



10

4 Isonandra, Wight.

1. Isonandra? Richii, Sp. Nov.

? undique glabra; foliis chartaceis obovatis apice  
rotundatis nunc retusis basi acutis; pedicellis  
calyce quadrifido plusduplo longioribus; filamen-  
tis filiculis barbatis.

Hab. Tongatabu.

The ~~imperfect~~ specimen is named, "Bassia  
retusa, n. sp." by Mr. Rich in the collection. ~~There~~  
Only a single and imperfect corolla is extant, ~~with~~ by  
which to determine the genus. As that appears to be  
four-cleft, like the calyx, and with <sup>a</sup> fertile stamen  
in the sinuses <sup>as</sup> ~~as~~ <sup>one</sup> before each lobe, and there  
are no appendages, I refer the plant to Isonandra,  
notwithstanding the bearded filaments. The rather  
thin leaves are about 3 inches long and  $1\frac{1}{2}$  to 2 wide,  
transversely veiny, on petioles of 6 or 8 lines long.  
Flowers fascicled, apparently not crowded; the pedi-  
cels (4 or 5 lines long) and the ~~calyx~~ calyx glabrous. The  
latter is four-cleft to the middle; and two of the  
lobes are wholly exterior and a little larger  
than the inner ones. Corolla probably little  
longer than the calyx. Style after flowering half  
an inch long.



4

11

Bumelia, Swartz.

1. Bumelia excelsa, Alph. DC.

Bumelia excelsa, Alph. DC. Prodr. 8, p. 192.

Hab. Brazil; on the coast near Rio Janeiro.

6. Bassia, Koenig, Linn.

1. Bassia Amicorum, Sp. Nov.

B. foliis obovatis nunc ovalibus retusis glabris  
viridibus; pedicellis elongatis; corolla glabra sep-  
partita Calyce hexamero plus duplo longiore; Ham-  
inibus 18; filamentis subulato-filiformibus antheris  
lineari-sagittatis cuspidatis subaequilongis.

Hab. Tongatabu, Friendly Islands; on the  
shore.

sterile The materials consist of loose flowers and leafy  
branches; the former probably picked up under the tree.  
Leaves glabrous, as are the stout branchlets, 3 to 6 inches  
long, and with petioles an inch <sup>2 or 3 inches wide</sup> long, subcoriaceous, obovate  
or nearly oval, with an acutish base, and a rounded, mostly  
retuse apex, vein-y, loosely reticulated, light green, rather

dull, entire. Pedicels 2 inches long, slender, silky-pubescent, as is the calyx. Sepals 6, in two series, round-ovate, scarcely half the length of the six-parted, glabrous corolla; the segments of the latter lanceolate, half an inch long, destitute of appendages. Stamens 18, all fertile and of about the same length, but those answering to the sinuses of the corolla inserted rather lower down: filaments <sup>glabrous</sup> subulate-filiform; anthers linear-sagittate, cuspidate-pointed, slightly hairy, about 3 lines long. Style filiform, an inch long. Ovary silky-pubescent. Fruit unknown.

Mr. Rich supposed this to be Forster's *Bassia* *obovata*, from Tanna. But, on a hasty comparison of specimens I find that Forster's plant has the leaves less <sup>ven</sup>veiny, more tapering at the base, and somewhat pointed (instead of rounded and retuse) at the apex; the pedicels shorter; the flowers much smaller; and the corolla, probably, more than six-cleft, is pubescent ~~rather~~ externally.

13

7

7. Mimusops, Linn.

1. Mimusops Glenzi, Linn.

Stat. Mangri Islands, in the Sooloo Sea.

2. Mimusops dissecta, R. Br.

Mimusops dissecta, R. Br. Prodr. Fl. N. Holl. p. 531, in  
obs.; ~~Afl.~~ Ab. Prodr. 8, p. 204.

Achras dissecta, Forst. Pl. Esq. p. 43, excl. syn., & Prodr.  
p. 25.

Stat. Tongatabu.

The specimens, mostly with forming fruit,  
furnish no addition to our knowledge of this species;  
nor do I find that any notes were made on the  
living plant; which is undoubtedly the same as  
Forster's.



Mimusops subsericea, Mart.

14

Regent.

Mimusops subsericea, Mart. in Flora, ~~Reich~~ 1839, &  
Hort. Fl. Bras. no. 487; Alph. D.C. l. c. p. 206.

Synsphaera subsericea, Fisch. & Meyer, Bull. Acad.  
Petersb. 1841.

Stat. Rio Janeiro, Brazil. (With young fruit.)

1  
Ord.      Ebenacea.

1. Diospyros, Lin.

1. Diospyros maritima, Blume.

2. Diospyros Sapota, Roxb.?

Hab. Small island in the Andoo  
Sea. North in fruit only.

2

3. *Diospyros Samoensis*. Sp. Nov.

*D. ramis* <sup>novellis</sup> ~~junioribus~~ vix puberulis; foliis glabris ovato-oblongis obtuse acuminatis basi acutis; pedunculis masculis 3-9. floris, femineis solitariis unifloris petiolum subaequantibus; calyce quadri-  
fido sericeo-puberulo, lobis obtusissimis, femineis rotundatis intus basi ~~ex~~ quasi coronatis corolla  
extus sericea quadri-fida aequilongis; staminibus <sup>8-9</sup> 9;  
ovario hirsuto octoloculari; fructu globoso.

Nat. Tutuila and Savaii, Samoan or Navigators' Islands: "in woods and also sometimes planted."

'A middle-sized tree'; the branches puberulent when quite young, soon glabrous. Leaves ovate-oblong or oblong, alternate, 3 to 6 inches in length,  $1\frac{1}{2}$  to 3 inches wide, chartaceous in texture, ~~rather veiny, glabrous~~ <sup>rather</sup> loosely veined, conspicuously but obtusely acuminate, acute at the base; the petiole nearly half an inch long. Male flowers either in threes at the extremity of a peduncle of the length of the petiole, or in two or three fascicles of three or four partial peduncles, borne on a common peduncle of an inch in length. Pedicels short. Calyx four-cleft nearly to the middle, 2 to 3 lines long, ~~sericeous~~ silky-puberulent; the lobes very obtuse. Corolla silky-pubescent out side, about twice the length of the calyx, four-cleft; the lobes contorted in aestivation, "yellow." Stamens 8 or 9; anthers slender, cuspidate; filaments glabrous. Female flowers solitary on short peduncles of nearly the length of



3

the petiole, considerably larger than the male flowers; the lobes of the calyx roundish, somewhat auriculate at the base, as long as the tube, which is produced into a short and rounded process or corona before each lobe. Corolla nearly as in the male flowers, but apparently not longer than the calyx. Stamens 8, as in the male flowers, but smaller. Ovary hirsute, eight-celled, with a solitary ovule suspended from the summit of each cell. Styles very short, 4 or 5, slightly two-lobed. Fruit globose, an inch in diameter, short-peduncled. Seeds 4 or more, perhaps 8, smooth, half an inch long, convex and slightly one-grooved on the back, the sides flattened, the inner edge acute. Embryos ~~with~~ more than half the length of the ~~albumen~~ hard albumen: the radicle longer than the flat cotyledons.

In aspect this species a good deal resembles P. Philippensis, Alph. DC.; but it is quite distinct in its characters. I have only a single female flower to examine.

2, Maba, Forst.

1, Maba elliptica, Forst.

Maba elliptica, Forst. Char. Gen.

p. 121, t. 61; Linn. f. Suppl. p. 426;  
Labill. Serot. Austr. Cal. p. 32, t. 35;  
A. DC. Prodr. 8, p. 420.

M. major, Forst. Prodr. p. 92.

Stat. Friendly, or Tunga, Samuan  
or Navigators, and Feejee Island.

Dr. Pickering recorded but one Maba  
at Tongatabu, and that <sup>probably</sup> the same  
as ~~the~~ one from the Samuan Island.  
I conclude therefore that <sup>Forster's</sup> M. major  
is probably ~~the same~~ one of the forms  
of M. elliptica, with a larger fruit.  
This species varies with ~~broadly~~ <sup>the</sup>  
leaves broadly elliptical or oval, nar-  
rowly elliptical or oblong, to lanceolate-  
oblong and acute or even acuminate.

The latter, gathered by Brackenridge  
on Tutuila, is noted as perhaps  
a second species; but the male plant  
which alone was collected, does not  
otherwise differ. Our plant from  
the Feejee Islands is (so far as  
can be ~~determined~~<sup>determined</sup> from a specimen  
in fruit only) differs only in the entire  
want of pubescence even of the nas-  
cent leaves. Dr. Seemann's no. 295  
is the same, with slight traces of  
the caducous pubescence, and I  
suppose his no. 296. is a broad-leaved  
form of the same species; which may  
also include his no. 297. But Dr.  
Pickering's notes indicate other species  
in the Feejee Islands.



2. Maba foliosa, Rich in herb.

M. foliis confertis lato-ellipticis  
utrinque rotundatis basi cordatis  
brevisime petiolatis glabris, ~~the~~  
novellis cum ramulis fructibus-  
que olivaceo-ferrugineo to-  
mentulosis; pedunculis fructiferis  
brevis uni-trifloris; calyce tri-  
lob.

Itab. Muthuata and Ovolau,  
Feejee Islands, in deep woods, at the  
altitude of 2000 feet.

"A shrub, 10 to 15 feet high"; the  
branches densely leafy, ferruginous  
tomentose when young. Leaves an  
inch or little more in length, 9 or  
10 lines broad, rounded or even retuse  
at the summit, cordate at the base,  
the sinus as deep as the very short  
petiole, so that they appear as if

semile: they are chartaceo-coriaceous  
in texture, flat, obscurely veined  
above, reticulated beneath. Flowers  
not seen. Fruit 9 lines long, olive-  
shaped, 1-2-seeded ferruginous-to-  
mentulose, solitary or 2 or 3 together  
on very short pedicels raised on a  
short peduncle of 2 or 3 lines in  
length. Seed and embryo as in the  
genus.

3. Maba Sandriensis, A. DC.

M. foliis lato-lanceolatis oblongis  
sen ualibus coriaceis pallidis ven-  
uloso-reticulatis glabris, novellis  
cum ramulis floribusque extus  
sericeo-pilosis; floribus in axillis  
subsessilibus, masculis 15-17-andris  
calyce <sup>alte trifido,</sup> ~~tripartito~~, femineis — ;  
fructu ovali calyce breviter trilob-  
stipato, — rudet foliis aut nunc

utrinque acutiusculis vel obtusi-  
usculis, nunc basi rotundatis, nunc  
utrinque rotundatis basi retusis.

Maba Sandriensis, A. DC.

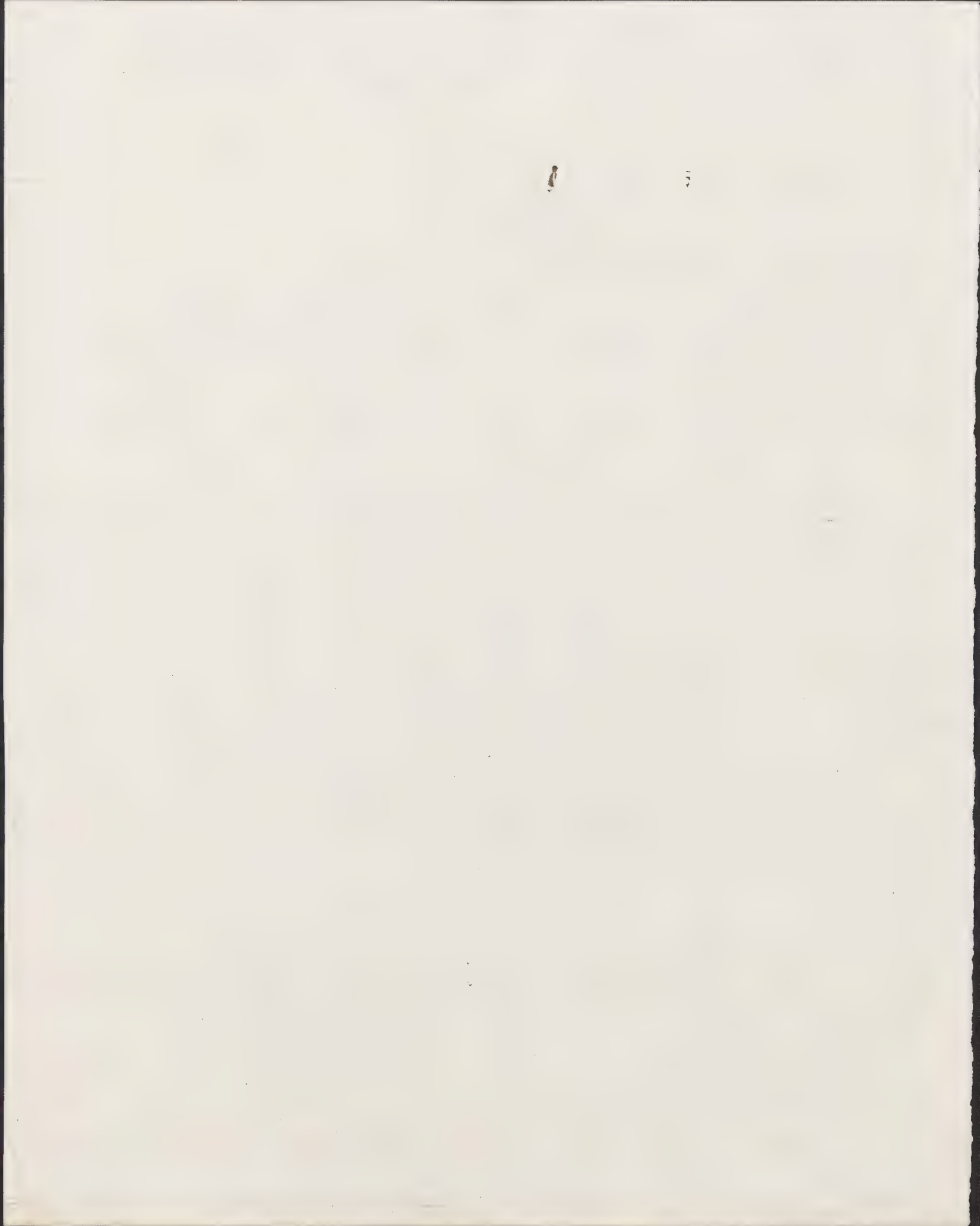
Prodr. 8, p. 242.

Sclerosperma dimorphum, Nutt. in  
Herb. Hook.

Stat. Sandrich Island; on  
the mountains behind Honolulu,  
Oahu, Lay and Collie, Sandichand,  
<sup>Seemann</sup> Nuttall, Kemy, H. Hawaii, Kemy, <sup>(no. 470)</sup> a  
variety with remarkably roundish-oval  
or ovate-rotund leaves retuse at the  
base.

Our specimens have fruit only;  
~~on a large-leaved form.~~ and I have  
examined male flower-buds from speci-  
mens collected by Seemann and Kemy  
(470); the female flowers are still a  
desideratum. The leaves vary exceed-





ingly in shape, and in size from  
1 1/4 to 4 inches in length. Flowers  
(male) either single or 3 to 5 in a nearly sessile  
axillary cluster, silky, hirsute; the  
divisions of the <sup>deeply 3-lobed</sup> ~~3-parted~~ calyx broad-  
ly ovate, obtuse, imbricated more  
or less in aestivation. Corolla in  
the bud not exceeding the calyx, ovoid,  
three-parted, the divisions imbricated  
in aestivation, or in some flowers  
I believe convolute. Stamens 15  
to 17, hypogynous, short, surmount-  
ing the villous rudiment of an  
ovary; anthers oval, flattish, em-  
arginate at both ends, almost in-  
nate. The fruit accords with De-  
Candolle's description; it is silky-hir-  
sute becoming glabrate, the thin pericarp  
filled by a single oblong and terete seed,  
Embryo not half the length of the hard  
albumen; cotyledons oval, much shorter  
than the slender superior radicle.

Embryo not half the length of the seed albumen :  
cotyledons oval, ~~not~~ much shorter than the slender  
superior radicle. The ~~ovary is the~~ fertile flower  
is ~~still~~ a desideratum.

Maba Cumingiana, Alph. DC. l. c.

Stat. On a small island in the Sooloo Sea.

The specimens, in fruit only, have rather larger  
leaves Cuming's plant is described as having.  
The fructiferous peduncles are much shorter than the  
three-lobed calyx. Fruit globular, about 5 lines  
in diameter, three-seeded. Seed oblong, triangular,  
with the back rounded. Cotyledons much shorter than the  
slender radicle. It is perhaps M. ovata, R. Br., and  
too near M. luxifolia.

3. Cargillia, R. Br.

1. Cargillia australis, R. Br.

Cargillia australis, R. Br. Prodr. Fl. N. Holl. p. 526;  
Hook. Bot. Mag. t. 3274; Alph. DC. l. c.

Stat. Sydney, New South Wales.





Parcel 12

42

1 plio que to printa

1  
Ord. Loganiaceae

1. Spigelia, Lin.

Schlecht.

1. Spigelia Beyrichiana, Cham. ~~St. X~~

Hab. Brazil, near Rio Janeiro.

~~A single and very~~ Imperfect specimens.

2. Mitrasacme, Labill.

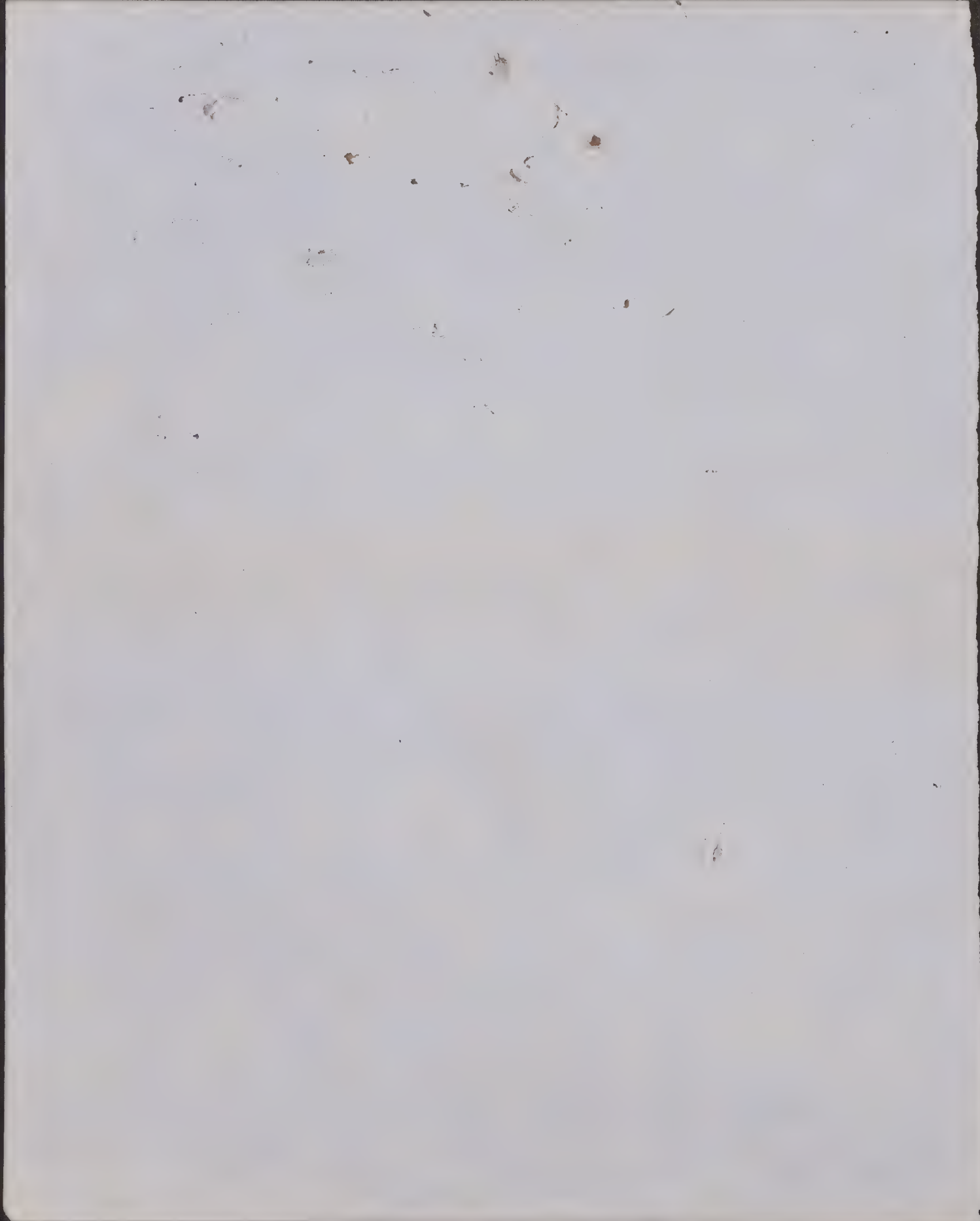
1. Mitrasacme capillaris, Wall.

2. Mitrasacme alsinoides, R. Br.

3. Mitrasacme polymorpha, R. Br.

Hab. The first was gathered in Luzon, near Manila; the second at Hunter's River, and the third at Sydney, New South Wales.





### 3. Buddleia, Linn.

Of this <sup>specimens of</sup> genus, four well-known species were picked up, viz. Buddleia Americana <sup>Linn.</sup> at Lima; B. globosa, Lam., at Santiago, Chili; B. Brasiliensis at Rio Janeiro; and B. Madagascariensis, Lam., at St. Helena.

### 4. Geniostoma, Forst.

Blume is the only author who (long ago, under the name of Haemospermum, Reinw., and more recently, in Mus. Bot. Lugd.-Bat.) has correctly described the internal structure of the fruit in this genus.

I have not seen the Mauritian species; but all the Polynesian <sup>specimens</sup> ~~and~~ examined have their seeds immersed in the pulpy placenta. The pulp dries up after dehiscence, so that

the seeds come to view although still covered with a pellicle which confines them in a mass; but when soaked in water, the pulp swells again and conceals them.\* The fresh fruit when deliquescent must have much the appearance of that of *Belastus scandens*, where the seeds are concealed in the pulpy arillus. Had Mr. Bentham noticed this he would ~~not~~ have remarked the

\* From the supplementary remarks added by Mr. Bentham to his revision of the *Loganiaceae* in the first volume of the *Journal of the Proceedings of the Linnean Society*, I learn that M. Bureau has noticed and illustrated this structure in his inaugural ~~thesis~~ dissertation upon this group of plants. I have not seen this dissertation. I do not find any "regular stellately-lobed expansions of the placenta" or ~~separate~~ arilliform portions surrounding ~~the~~ separately enclosing each seed (as is the case in *Podophyllum*), but rather a general pulpy development of the placenta, filling the cells of the fruit.



analogy with Gardenia and the  
Randia, with which, more-  
over, ~~they~~ it accords in activa-  
tion. Not absolutely, however; the  
difference between convolute and  
imbricative activation is no more  
constant in this genus than in  
many others. An occasional flower  
of G. rupestris has one lobe of the  
corolla wholly external, as in Lo-  
sania, while in all of the very few  
flower-buds preserved of G. astylum,  
the activation is regularly quin-  
cennial. The ovules in the genus  
are ~~rather~~ amphitropous, as sus-  
pected by Endlicher, <sup>rather</sup> than anatropous,  
as described by Blume. ~~It is~~  
~~G. ligustrifolium are strictly an-~~  
~~istiotropous.~~ The embryo is not  
curved, as in Blume's character,  
nor that as figured in his G.  
lasiostemon, but cylindrical and  
almost equalling the albumen,  
as described by Alphonse De Can-  
dolle, except that the cotyledons  
are shorter.

1. Geniostoma ligustrifolium, A. Bunn. (Tab.

G. stipulis utrinque triangulatis  
acutis; stigmatibus didymis vel  
bicaulis; <sup>style breviori</sup> pectin ovato-globo.

Geniostoma ligustrifolium, A. Bunn.  
in Ann. & Mag. Nat. Hist. 2. p. 47;  
Hook. & Th. Pl. t. 430; Hook. f. Fl.  
N. Zee. 1. p. 177; A. St. Prodr. 9, p. 27;  
Benth. Logan, in Ann. Linn. Soc. 1,  
p. 97.

G. rupestris, A. Rich. Bot. Voy. Astral.  
p. 207, non Forst.

Hab. Bay of Islands, New Zealand  
in fruit.

and the imbrication of the anthers. The latter is striking in a cultivated specimen, from which the figures 15 and 16 were taken.

This species is pretty well distinguished from *G. rupestris* by its didymous stigma, or pair of capitate stigmata, and its more or less triangular and pointed (instead of directly truncate) stipules. The <sup>divisions</sup> lobes of the calyx are narrower, and usually more pointed, but this is a variable character, as also is the villosity of the corolla. The petals are more slender; the blade of the leaves from  $1\frac{1}{2}$  to  $2\frac{1}{2}$  inches long.

## Plate.

## *Geraniostoma ligustri-*

nium. Fig. 13, Unexpanded flower, from a cultivated specimen. 14, Longitudinal section of an expanded flower. 15, 16, Stamens. 17, More magnified vertical section of the pistil, with the calyx, &c. 18, Fruit, of the natural size. 19, Placenta with the imbedded seeds, after soaking. 20, Transverse section of the same. 21, A detached seed. 22, Vertical section of the same. 23, The embryo. — Various magnified, except fig. 18.



2, Geniostoma rupestre, Forst. (Tab.)

G. stipulis recte truncatis; stylo  
nunc brevi nunc elongato;  
stigmati globoso denique obvato  
~~integro~~ ~~subglobo~~; fructu ovali. St. var.  
a. glabra; foliis  $1\frac{1}{2}$  -  $3\frac{1}{2}$  - plic. oblongo-sen-  
natis; lanceolatis; stylo stigmati ~~integro~~  $2\frac{1}{2}$  -  $3\frac{1}{2}$  plic. ~~longo~~  
Geniostoma rupestre, Forst. Char.  
Gen. t. 12 (pennina), & Prodr. p.  
17; Spreng. Pug. Pl. 1. p. 18; DC.  
l.c.; Benth. l.c.

Var.  $\beta$ . ellipticum; glaberrimum;  
foliis elliptico-ovalibus seu  
lato-oblongis utrinque obtusis  
vel obtusissimis nunc coriaceis  
nunc submembranaceis; fructu  
ovali-oblongo ~~vel~~ seu ovali-  
subglobo.

G. foetidissimum, Rich. in Herb.

G. crassifolium, Benth. in Jour.  
Linn. Soc. l.c. p. 96; pro-

Asterum Var.  $\beta$ . glaberrimum,  
excl. Pl. Dandv. Insul.



Var. *N. macrophyllum*; glaberrimum; foliis fere membranaceis 4-6-pollicaribus ovali- seu ovato-oblongis pl. m. acuminatis; calycis lobis ~~ovatis~~ latioribus brevioribus obtusis; stylo stigmatate haud longiori; cat. var. B.

*Geniortoma macrophyllum*,  
Rich, in Herb.

*G. buringianum*, Benth. l.c.?

Var. *S. puberulum*; ramulis junioribus costaque foliorum (interdum vasis pagina inferioris) rufo-sen fuliginoso-puberulis; foliis saepissime oblongo-lanceolatis acutis vel acuminatis basi obtusis vel rotundatis 3-6-pollicaribus; stylo nunc brevi nunc brevissimis; fructu ovoido.

*Stemoxyspermum arboreum*, Reinw.



ex Blume, Bijdr. p. 1018 \*

Geniostoma Stenospermum, ~~Blume~~  
~~Mus. Bot.~~ in Steud.; DC.  
l.c.; Blume, Mus. Bot. Lugd.  
Bot. 1, p. 238; Miq. Fl. Ind. Bat. 2, p. 363.

G. crassifolium, Benth. l.c.  
forma crassifolia?  
(G. reticulata, Blume, Mus. Bot. l.c. fide Miq.)

Stat. Feejee Islands (var. a.) Var.  
P. Sandulwood Bay, Vanna-levu.  
Tonga-tabu. Mountains of Futuila,  
Samoa Islands. Y. Samoa Islands.  
S. Vanna-levu & Feejee Islands; also  
gathered at <sup>Tafailunga</sup> ~~Nassau~~, Friendly Island,  
by Prof. Harvey.

These widely diverse forms  
cannot be discriminated as species.  
But must all be referred to Forster's  
G. rufestria. In none of them,  
however, do I find the "Alyx bar-  
villous" mentioned by Sprengel; but this  
be probably took from Forster's figure  
d, where the hairs are delineated  
as surrounding the ovary. In fact,

\* If we may rely upon Miguel's  
Flora, and if Blume's plant really has ~~the~~  
a "connectivum productum" like that figured for  
G. montanum, then these synonyms must be  
excluded. But Blume does not so describe  
the stamens.



They belong to the corolla. Forster's figures ~~is wretched~~ - though sufficing to identify the species - <sup>are</sup> ~~wretched~~, and in several respects <sup>do not</sup> accord ~~neither~~ with his own character, nor ~~to either of~~ either of them with Sprengel's description from an original specimen.

Forster's "Stylus filiformis tubo longior" answers to some states of the species; Sprengel's "Stylus brevissimus" to others, and to Forster's own figure. But Forster's "stigma cylindricum" is totally at variance with all forms of the plant, and also with his own figure, with which which Sprengel's "stigma capitatum, pubescens, subampliosum" accords. The stigma is in fact globular at first even depressed-globose, but after anthesis becoming somewhat obovate or turbinate. There is nothing answering to the appearance of four parallel lobes as delineated in Forster's figure.

So Forster describes and delineates the tube of the corolla as much longer than it is, which has caused the genus to be

characterized as having a somewhat funnel-shaped corolla, while Sprengel calls it "subrosacea pentapetaloides". It is really between campanulate and rotate. The pubescence of the upper face of the lobes is variable, and sometimes wanting. The villosity in the throat, sometimes copious, is often reduced to a tuft at the insertion of the short filaments, or even upon them, as in *B. lasiostemon*. The lobes of the calyx vary from triangular-subulate to triangular-ovate, from very acute to obtuse or obtusish. The capsule varies from globose-ovoid to oblong; from  $2\frac{1}{2}$  to 4 lines in length. Placenta and seeds as in *B. ligustica* <sup>myrica</sup> *sp.*: testa, when the dried pulp is rubbed off, minutely papillose. - the flowers are said to be very faded, like that of *Gymnosma*, at least in some of the varieties.

Plate *Geniostoma rupestre*, var. ellipticum. Fig. 1, Portion of inflorescence. 2, Bud, and flower, <sup>as</sup> more magnified. 3, Flower, the corolla removed. 4, Vertical section of same. 5, Section of a flower with the corolla. 6, Corolla and stamens displayed. All the details magnified. <sup>much</sup> of var. *macrophyllum*, showing the shorter style.

(Tab. )

3. *Geniostoma astylum*, Spr. n. n. 1  
*G. glaberrimum*; stipulis bifidis?  
truncatis; foliis ovalibus; sepalis  
ovatis; corolla intus glabra astyl-  
vatione quinquecunciali; stigmati  
integro subgloboso sessili; fructu <sup>calde</sup> im-  
mature anguste oblongo.

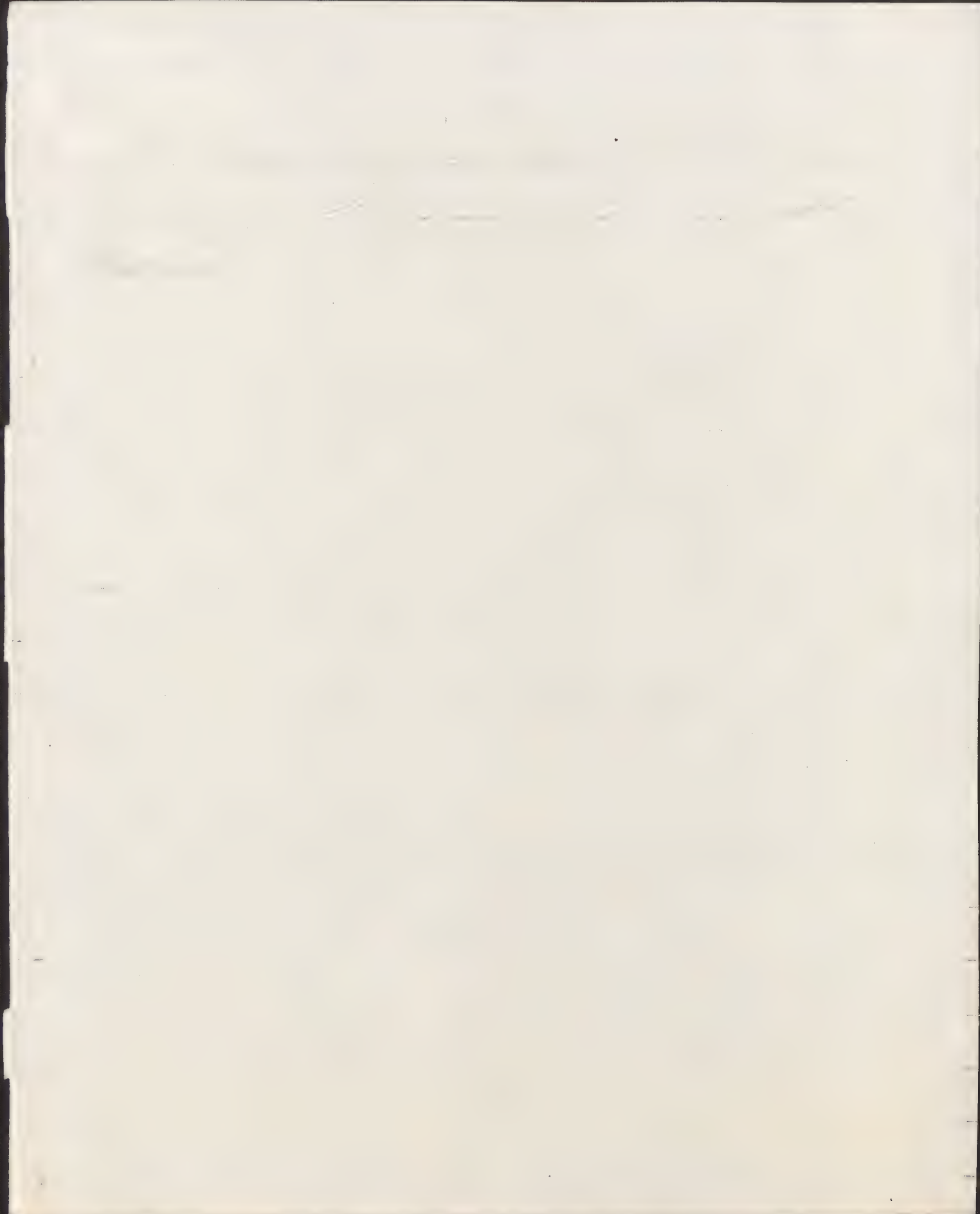
Tab. Tahiti, Society Islands.

A single specimen only of  
 this very distinct species is in the  
 collection, bearing forming fruit,  
 proclified ovaries, and a few flower  
 buds. In aspect, it resembles the  
 large-leaved varieties of *G. supprestre*,  
 some forms of which having an  
 almost sessile stigma and oval-  
 oblong fruit, might have taken this  
 Tahiti plant with them, except  
 for the manifest differences in the  
 flowers. The deeply 5-parted calyx  
 has broadly ovate and obtuse, or



abruptly acutish, quinquecincially  
imbricated divisions, and the cor-  
olla (which we have in bud only)  
is entirely glabrous, and its lobes  
are quinquecincially imbricated in  
the the buds examined. The Sta-  
mens are likewise glabrous. The  
ovary ~~ovoid~~ has a tapering sum-  
mit, which is directly tipped with  
globular and nearly glabrous stig-  
ma. The forming fruits are 4 or 5  
times long, somewhat fusiform,  
2-celled, with a thin dissepiment;  
the placentae are beginning their  
fleshy development, and enclosing the  
forming seeds; ~~in~~ but showing no separate  
arilliform expansions. Leaves about  
4 inches long, and 2 inches wide, rather  
thin; petioles 2 or 3 lines long, bymes  
sessile, twice or thrice trichotomous,  
loosely rather few-flowered, <sup>about an inch long.</sup> Bracts  
thickish, subulate. Stipules vaginate  
~~but~~ apparently cleft on each side, i. e.,  
intrapetiolar and slightly connate on  
both sides with the fellow of the opposite leaf.

Plate Quercus aestivalis, Fig. 7. Unexpanded  
flower. — 8, Diagram of the quinquecincial aestivation.  
Gonthe and stamens displayed, 10, 11. Stamens, 12. 9,  
Section of calyx and pistil in outline. All magnified.



5. Labordea, Gaudich.

Char. nov. Calyx quinquepar=  
titus, ~~saepe majusculus~~. ~~lobis~~  
persistens. Corolla subcoriacea,  
(<sup>intus villosa</sup> hypocraterimorpha); lobis tubo  
dimidio brevioribus aestivatione  
contortis. Stamina 5, fauci  
corollae inserta, lobis alterna;  
filamenta brevissima; antherae  
lineari-oblongae, dorso supra  
basim affixae, biloculares.  
Ovarium ovoidem vel conic=  
um, 2-3-loculare: stylus  
aut brevis aut elongatus;  
stigma elongato-clavatum,  
pubentissimum. Ovula in  
placentis crassis numerosissima,  
amphitropa <sup>vel subanatropha</sup>. Fructus capsu=  
laris crassivalvis, <sup>et</sup> semina in  
placentis <sup>loculos replentibus</sup> pulposis, nidulantia.



monino Geniostomatis, sed gynae-  
 cis nunc trimeris. — Frutices  
 sandwicensis; stipulis in vagin-  
 ulam intrapetiolarem connatis;  
 inflorescentia terminali cymosa  
 saepius umbelliformi. — Sect. 1. *Gynae*  
*aperta*, pedunculata; calyx  
 quam corolla multo brevior;  
 ovarium dimerum. (Inter *Labordea*  
 et *Geniostoma medium*.) —  
 Sect. 2. *Labordea vera*, *Gynae*  
*semilis umbelliformi-contracta*;  
 sepala foliacea, lanceolata, tu-  
 buncorollae ~~aequale~~ subsuperantia.

The genus *Labordia* (as written  
 by Gandichand and DeCandolle), or  
*Labordea* (according to <sup>was known</sup> *Barthram's*  
 more correct orthography) until  
 very ~~recent~~ recently only by the character

and figure in the Botany of —  
 Freycinet's Voyage. Judging  
 from the plate, ~~Bentham~~ ~~presumed~~  
~~suspected~~ the aestivation of the corolla  
 to be valvular, and the fruit to be  
 baccate. His <sup>(opinion)</sup> ~~conjecture~~ as to  
 the aestivation would seem to have  
 been verified by M. Bureau. I  
 have not seen the inaugural  
 thesis of Bureau <sup>but</sup> Mr. Bentham,  
 in the supplement to his Notes on  
 Loganiaceae, remarks that "M. Bu-  
 reau has been enabled to dissect  
 three flowers of this plant [*Labor-  
 dea fragroidea*]. He confirms the  
 presumed valvular aestivation of  
 the corolla, but always finds  
 two cells only to the ovary, and  
 very plausibly suggests that the  
 three celled one examined by Gaudi-  
 chand was accidentally abnormal.  
 Now the present collection com-  
 prises good flowering specimens of  
 a species which can hardly be other  
 than that figured by Sandichand;  
 and fruiting specimens of another, nearly  
 related species, — thus revealing the real

affinity of the genus. In the  
 flowering plant, the lobes of  
 the corolla <sup>line the bud</sup> decidedly, although  
 narrowly, overlap in the convo-  
 lute manner, and are slightly  
 twisted (towards the observer's left).  
 I can only suppose that the  
 flower-buds examined by Burscan  
 were too young to show the assti-  
 vation properly. In the fruiting  
 plant, all the fruit is actually  
 bicarpellary. Moreover, the fruit  
 is capsular, and similar to that  
 of Senecostoma, except in being  
 trimerous. Labræa, therefore,  
 is nearly related to Senecostoma;  
 from which, thus far, it would seem  
 to be well distinguished by its  
 habit (resembling Gartniera), the  
 long and foliaceous division of  
 the calyx, the tubular (instead  
 of rotate-campanulate) corolla;  
 and the elongated (instead of glo-  
 bose or didymous) stigma; and the  
 terminal inflorescence. The tri-  
 carpellary ovary proves to be barely



a subsidiary character, not being  
 at all constant in L. fragrans,  
 and probably not in L. sessilis.  
 But the same collection which  
 has supplied this important infor-  
 mation, also furnishes (as does  
 Kunz's later collection of later  
 date) good specimens of a third  
 species which almost exactly fills  
 the interval between the two genera.  
 Now, with the general habit and  
 foliage, and the dicarpellary pistil  
 of Geniostoma, it combines the  
 elongated corolla, the clavate  
 stigma, and the terminal in-  
 florescence of Labordea. The  
 last three characters, taken  
 together will surely outweigh  
 that of the calyx, and require  
 the annexation of this ambiguous  
 species to Labordea, unless,  
 indeed we merge the latter genus  
 in Geniostoma, which for  
 the present would hardly be  
 warranted. I commence the  
 enumeration with this connecting  
 species.

Sp. Nov. (Tab. .)

1. Labordea (Geniostomoides) tinifolia.

L. glaberrima; ramis gracilibus;  
 foliis oblongis chartaceis lon-  
 giuscule petiolatis; cyma  
 pedunculata composita laxi-  
 flora; calycis alte 5-fidi seg-  
 mentis triangulari-oratis acu-  
 minatis ~~minutis~~ tissimis corollae  
 hypocraterimorphae tubo tri-  
 plo brevioribus; stylo gracili;  
 stigmate elongato-clavato;  
 capsula globosa bivalvi.

Hab. Sandwich Island; Mann-  
 Ains of Kauai; in flower; Mann-  
 Ains behind Honolulu, Oahu; in fruit.

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Also collected by Kunz in Oahu,  
Hawaii, and Maui, in flower and  
fruit.

A glabrous shrub, with rather  
branches, leafy. Leaves oblong, ellip-  
tical, or lanceolate-oblong, 2 to 4  
inches in length, 9 to 18 lines broad,  
chartaceous or thin coriaceous in tex-  
ture, opaque, with slender and  
inconspicuous veins (those of the  
upper face hardly visible, obtuse  
or acute at both ends, sometimes  
acuminate: petioles about half an  
inch long. Stipules short, vaginate,  
truncate, nearly free from the petioles.  
Peduncle terminal, about half an  
inch long <sup>when</sup> in flower, about twice  
that length in fruit, Cyme re-  
peatedly trichotomous, rather loosely  
flowered: the divisions and pedicels  
slender: bracts subulate, small.



Calyx deeply 5-cleft; the lobes  
triangular-ovate and acuminate,  
imbricated in aestivation, coriaceous  
about a line in length, <sup>persistent beneath the capsule.</sup> Corolla  
subcoriaceous, white or whitish?  
hypanthium; the tube pilose  
inside, 3 lines long; the lobes ovate,  
<sup>rather obtuse,</sup> ~~acute~~, bearded ~~near~~ within near  
the base, rather strongly convolute  
in aestivation, <sup>widely spreading in anthesis,</sup> ~~in~~ further line ar-  
oblong. Style filiform, sur-  
mounted by an elongated-clavate  
pubescent stigma. Ovary 2-celled;  
ovules amphitropous, sessile on the  
thickish placenta. Capsule  
globose, 5 lines long, wholly that  
of Seneciostrana; the valves very  
thick and cartilaginous, separating  
from the ovate didymous fleshy  
placenta, in which the obovate  
seeds are imbedded. Embryo cyl-  
indric, little shorter than the



not

fleshy albumen; cotyledons small.  
 Hawaiian plant reported by Benthham to his  
 I suppose this to be the Geniostoma  
crassifolium, var. glaberrimum,  
 if the specimen really came from the  
 Sandwich Islands. In fruit the  
 present plant could be distinguished  
 from Geniostoma only by the ter-  
 minal inflorescence. If referred to  
 that genus, <sup>as it might be,</sup> the original Labordea  
 would have to follow it.

Plate , Labordea tinifolia,  
 in fruit, and, Fig. 1, a branchlet in flower.  
 2, Diagram of the aestivation. 3, Flower-  
 bud. 4, Expanded flower. 5, Corolla and  
 stamens displayed. 6, Calyx and pistil.  
 7, Section of the ovary and calyx. 8, The  
 fruit, dehiscent. 9, Transverse section of the  
 pulpy placenta. 10, Seed. 11, ~~Anti~~ Longitu-  
 dinal section of the same, showing the  
 embryo. All the details magnified.

2. Labordea fagraeidea, Gandich. (Tab.)

L. glabra, pallida; foliis obvato-  
oblongis seu oblongis basi in  
petiolum brev<sup>(iusculum)</sup>~~er~~ attenuatis  
perminerviis subcoriaceis; cyma  
sessili, <sup>quasi</sup> umbellato-contracta;  
calyce fere 5-secto, sepalis  
lanceolatis foliaceis nervosis  
tubum corollae adaequantibus;  
stigmatibus elongatis subclavatis.

Labordea fagraeidea, Gandich.

Mut. Voy. Freyc. p. 449, t. 60;  
 DC. Prodr. 9, p. 21; Benth. in  
 Jour. Linn. Soc. 1, p. 83, 114.

Hab. Woods, in the district of  
 Puna, and near the crater Lua  
 Pele, Hawaii, <sup>in blossom,</sup> Gandichand.

This, rather than the next,  
 I take to be Gandichand's original

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Labordea, because it is <sup>entirely</sup> glabrous, and so well answers to the published figure of the plant. But the branches are more slender than in the plate, perhaps from growing in deeper shade; and the sepals are not united to the middle; ~~as in~~ that I suppose to be a mistake of the artist. Moreover, the stigma is long and slenderly clavate (not conical as Gandichaud represents it; the style is <sup>often</sup> long and slender, but then the ovary seems to be sterile, but in specimens with <sup>an</sup> enlarging ovary it is only half as long as the stigma; the ovary is commonly only two-celled; but Dr Bureau finds it to be in <sup>the three</sup> ~~the~~ flower-buds of Gandichaud's specimen which he dissected. Finally our specimens were gathered on Hawaii, but those of the following species



on Oahu, where Gandichan  
obtained his original plant.

If this should prove not to be the  
original G. fagraeidea, it should  
be named G. asclepiadea.

The inflorescence is a true cyme,  
but much contracted; its short  
branches and ~~the~~ pedicels bearing  
slender, linear-nubitate bracts, as  
in Gandichan's plate, fig. 1. The  
flowers are nodding in anthesis.  
Sepals almost distinct, 5 or 6 lines  
long, foliaceous, with a very nar-  
row hyaline margin, lanceolate,  
some of them varying to linear or to  
narrowly oblong, narrowly imbric-  
ated in activation, connivent,  
at first as long as the undeveloped  
corolla, at length not longer than  
its tube. Lobes of the corolla oblong  
acute, becoming lanceolate with  
age. Their narrow and thin edges  
convolutedly overlapping in the bud,

which is ~~acutish~~ pointed and slightly contorted, in anthesis barely spreading, half the length of the tube, the inner surface somewhat bearded in the middle towards the base. Ovary, as in its allies, amphitropous. Fruit not seen.

Plat. Labordea fagarioides. Fig. 1. Diagram of the aestivation. 2. An

unexpanded blossom. 3. Corolla and stamens displayed. 4. Anther.

5. A dicarpellary pistil, the ovary transversely divided. 6.

A more enlarged transverse section of the ovary. 7. An ovule. — All magnified.

3. Labordea <sup>sessilis, sp. nov. (Tab. .)</sup> ~~crassifolia, sp. nov.~~  
L. foliis subsessilibus oblongis  
sem lanceolato-oblongis lineato-  
venosis crasso-coriaceis,  
juni oribus subtus rarisque  
pube brevi fusca hirsutis; sepa-  
lis oblongo-lanceolatis; capsulis  
brevisime pedunculatis tri-  
valvibus.

Hab. Mountains behind Hono-  
 lulu, Oahu: in fruit only.



Two fruiting branchlets and a young sterile branch only were gathered of this plant, species.

These are stout, as in Gandich-  
and's figure. But, besides the  
pubescence, on which small  
reliance can be placed, ~~the~~ <sup>by the</sup>  
and ~~the~~ thick <sup>ness</sup> and rigid <sup>ity of the</sup> leaves,  
the latter are sessile or nearly  
so. <sup>The stipules are conspicuous.</sup> The sepals appear to re-  
semble those of the foregoing  
species, but are <sup>shorter and</sup> less foliaceous,  
and are pubescent. Infructi-  
vous peduncles shorter than the  
capsules, which are ~~globose~~,  
ovate-globose, over half an inch  
long; the valves thick, towards  
the summit carinate on the back,  
and tipped with a portion of the  
style, in ~~Placenta in detach~~ after  
dehiscence ~~falling away~~ <sup>separating</sup> from the  
three conjoined fleshy placenta,  
which fill the cell, and, as in



Geniostoma completely enclose in their substance the numerous seeds. These are obovate, smooth, over half a line in length, with a cylindrical embryo, <sup>occupying</sup> almost the length of the fleshy albumen. The plate represents the principal ~~details~~ details. This species is interesting as demonstrating that a tricarpeillary ovary is not a mere accidental, abnormal state.

Plate . Labordea sessilis;  
 foliage and <sup>dehiscent</sup> fruit. 8. Placenta in the dry state. 9. The same after soaking. 10. Transverse section of the same. 11. A seed. 12. Longitudinal section of the same, showing the embryo. The details magnified.

Besides these, a specimen was collected in the forest on the slope of Mouna Kea, Hawaii, which is evidently a congener of the <sup>two</sup> preceding species, but too imperfect for determination. It may be a variety of *L. fagraeoides*, with somewhat of the pubescence of *L. semilis*. The branches are stout; the leaves accord with those in Gandichand's plate, but are larger, 4 to 6 inches long, membranaceous in texture, on petioles half an inch in length. The remains of one or two fruits upon the contracted umbelliform cyme indicate a two-valved, oblong-ovate, compressed, pointed capsule, with thinner walls than in allied species; and a calyx with linear-lanceolate or sibilate divisions, only 3 lines in length. It would be rash to characterize a third species upon such materials, nor should I be justified in referring the plant to *L. fagraeoides*,

(Jah.)  
2. *Adiantum fagax* (L.)  
2. *glabra* (L.)  
obscuro - oblongo basi in petiolum  
breve attenuato perimbrato;  
strobilus ad apicem ramorum  
~~multiflorus glomeratus~~



5. Fagraea, Thunb.

1. Fagraea Berteriana, Gray. (Tab. )

4. foliis obovatis sem obovato-oblongis  
raro oblongis obtusissimis vel  
abrupte brevis acuminatis basi  
acutis vel acutiusculis in petio-  
lum longiusculum contractis  
crasso-coriaceis, venis subtus  
vel utrinque obsoletis; cyma  
corymbosa trichotoma multi-  
flora; corollae 5-6- merae pallide  
aurantiacae tubo superne leviter  
ampliato <sup>calyce</sup> 3-5-plo longiore; stigmati  
bilamellato!

Barra? grandis, Bertero, mus.;  
Guillen, Zeph. Jact., p. 48.

Fagraea Berteriana, Gray in  
Benth., Logan. L.C., p. 98.

Hal. Society Islands, on the  
mountains of Tahiti and Bimeo. Toga-  
tabu. Upolu, Samoan Islands.  
~~Sandatwood Bay and Rerua, Feejee~~  
Islands, in fruit: but flowering  
specimens have recently been collec-  
ted by Professor Harvey.

A tall shrub or small  
tree, with stout branchlets.  
Leaves 6 or 7 inches long,  $2\frac{1}{2}$  to 4  
inches broad, of a thick coriaceous  
texture, perhaps somewhat fleshy  
in the living plant, obovate in-  
clining to oblong or broadly oval, with  
a rounded or somewhat abruptly-  
pointed summit, and a tapering or  
barely acutish base, the veins obsolete  
underneath, but sometimes apparent  
on the upper surface. Petioles one  
or two inches long, their bases dilate-  
d into the short and thick ~~anther~~

stipular appendage. (Bynum le-  
 minal, corymbose, brachiate-trichoto-  
 mous and many-flowered, or sometimes  
 simpler and rather few-flowered. Calyx  
 thick, half an inch long; the  
 ovate-obicular lobes quinque-  
 cially imbricated. Corolla said  
 to be pale orange-color; the tube  
 $1\frac{1}{2}$  to 2 inches, or in Samoan  
 specimens even 3 inches, in length,  
 at first somewhat curved above,  
 at length straight, narrow and very  
 gradually and slightly dilated toward  
 the summit, and from three to five  
 times the length of the spreading  
 lobes, so that the ~~form~~ corolla  
 is nearly salver-shaped; the lobes  
 are generally 6 in the specimens from  
 the Society Islands, and 5 in the  
 others, obovate-oval, convolute in  
 aestivation. Stamens as many  
 as the lobes, nearly included;  
 anthers <sup>erect, as</sup> linear, <sup>as wide,</sup> thick, acute,  
 introrse, attached just above the



Alfred, I have returned,  
Singapore, I hope before long  
it will be much improved  
daringly.

tip of base to the short filament.  
 Style filiform, about the length  
 of the tube of the corolla, its apex  
 abruptly dilated into two <sup>or oblong</sup> obovate plane  
 lobes or lamellae, the inner sur-  
 face of which is stigmatose. Ovary  
 ovoid, incompletely 2-celled; the  
 lamellar placenta meeting in the  
 axis but not uniting. Ovules  
 innumerable, amphitropous. Fruit  
 an <sup>fleshy</sup> ovate berry, <sup>1 1/2</sup> inches long, <sup>naked at the apex,</sup> <sup>probably</sup> 2 inches long, many  
 seeds. Seed obovate with the  
 micropylar extremity narrower, slightly  
 curved, amphitropous, but the hilum  
 nearer the micropyle; the testa  
 roughened, crustaceous. Embryo  
 small, in fleshy albumen, about one third  
 as long as the length of it, cylindrical, slightly  
 curved opposite the slight curvature of the seed;  
 cotyledons minute.

This species appears to have  
 a wide range in Polynesia. It  
 can hardly be any of Blume's, ~~not~~  
 certainly not his H. tubulosa, which is  
 particularly described as having the  
 depressed peltate stigma of the genus;  
 nor any form of H. Reylanica (to which  
 the corolla is similar though smaller,  
 but variable in size), for the same  
 reason; nor Duck's H. carnosa,  
 which is said to have a perr-lobed  
 stigma; but it is in fact remark-  
 ably distinguished from all others by  
 its bilamellar stigma, like  
 that of Lixianthus.

Plate Tagrea Berteriana; the  
 form with the shorter corolla. Fig. 1. A flower  
 with the longer corolla, of the natural  
 size. 2. The same laid open. 3. A  
 stamen seen from the outside. 4. Same  
 from the inside. 5. Pistil. 6. Stigma.  
 7. Transverse section of the ovary. 8. Fruit  
 of the natural size. 9. Seed. 10. Vertical  
 section of the same, showing the embryo.  
 Figures 3-7, 9, 10 more or less magnified.



2. *Fagraea gracilipes*, sp. nov. (Tab. .)

*F.* foliis lato-oratis ~~sub~~ subcoriaceis  
obtusis vel apiculato-acutis basi  
in petiolum longum abrupte  
decurrentibus; cyma terminali  
sessili multiflora <sup>cum floribus</sup> foliis multo  
brevior, divisionibus pedicellis =  
que gracilibus; <sup>calyce parvo;</sup> corollae tubo  
angusto superne ~~late ampliato~~  
cyathi obconico-ampliata;  
staminibus subsertis; stig-  
mate capiteolato; ovario ~~stricto~~  
prossus uniloculari, placentis  
arcte parietalibus.

*Fagraea gracilipes*, May in Proceed. Amer. Acad. 4, p. 35. (1859)

*F. vixiflora* flem. in Burplandia, 1861, p. 257.

*Tab.* Sandalwood Bay and Keera.

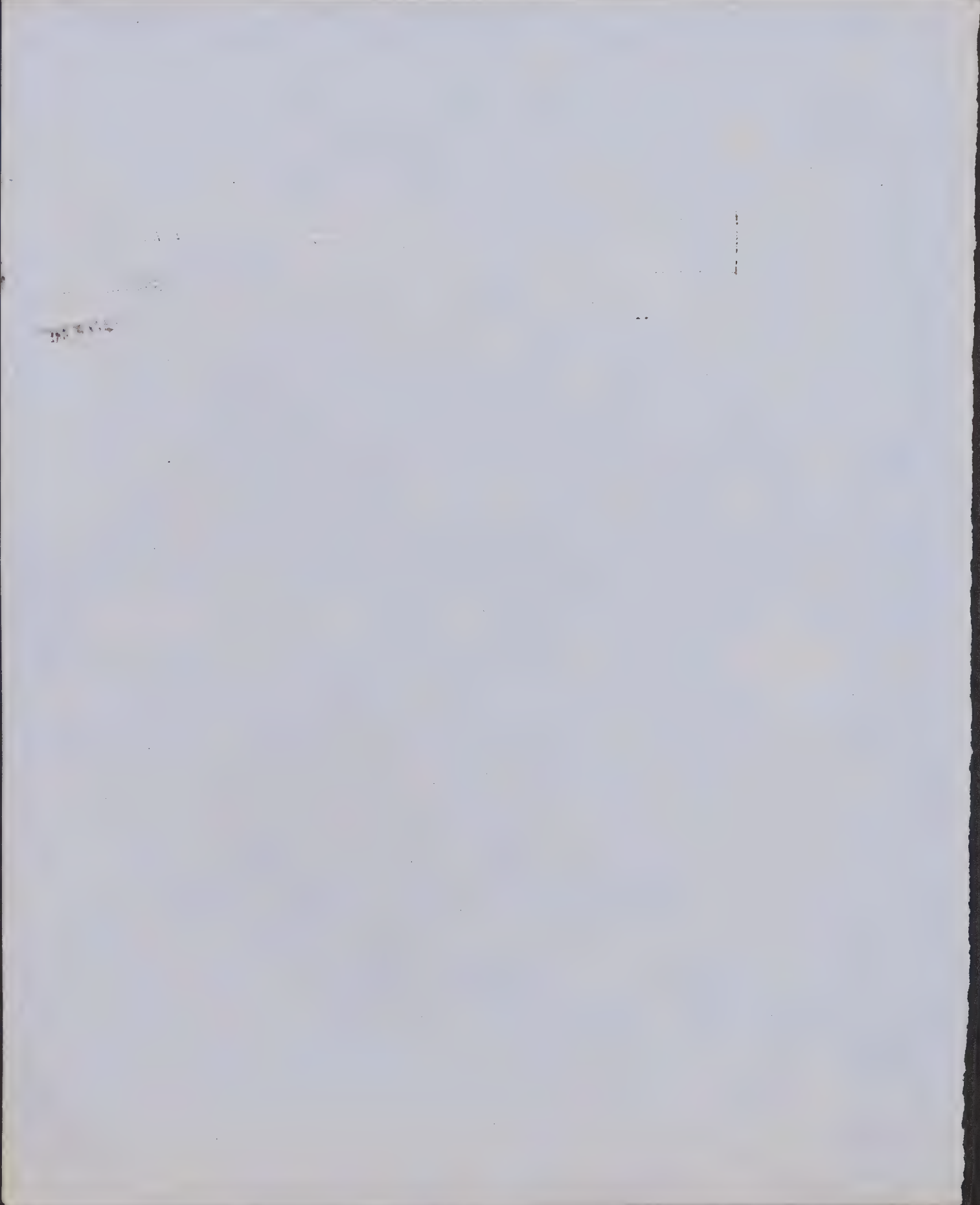
Feejee Islands. (Recently collected by Dr. Seemann, with shorter pedicels. &c.)

Shrub about 6 feet high.  
Leaves crowded at the extremity of the  
flowering branches, coriaceous but



rather thin, dilated ovate, 4 to 6 inches long,  $2\frac{1}{2}$  to 4 inches wide, either rounded and obscurely apiculate at the apex or more pointed, abruptly contracted at the base, marked underneath by 5 or 6 pairs of primary veins, which are indistinct on the upper surface; petioles slender,  $1\frac{1}{2}$  to 2 inches long, thickened and dilated at the insertion, but with no proper stipules. Ovary (exclusive of the flowers) scarcely exceeding the petiole, sessile, compound; its divisions slender, with minute bracts, the pedicels or ultimate divisions, above the bracts, half an inch long, calyx between two and three lines in length, deeply 5-cleft; the ovate-oblong divisions thick, with scarious margins. Corolla (<sup>summitly</sup> white or yellowish), of a much thinner texture than that of the preceding species, an inch and a half in length; one-third is a narrow cylindrical tube,

which is abruptly dilated into a broad-  
 ly funnel-form or obconical  
 portion, or throat, of the same length,  
 bearing the 5 oval ~~lobes~~ spreading  
 lobes of <sup>about the same</sup> ~~equal~~ length; the latter  
 convolute in aestivation. Stamens  
 inserted at the summit of the prope-  
 tube; filaments filiform, about the  
 length of the corolla; anthers oblong-  
 oval, dorsally attached near the mid-  
 dle, at the summit of the deep  
 basal sinus, the ~~dorsal face~~  
~~outer face~~ <sup>face</sup> rather concave, the cells  
 schiscent down the middle of their  
 inner face. Style filiform,  
<sup>at length</sup> as long as the corolla, at first  
 straight, the summit often incur-  
 ved after anthesis; stigma small  
 depressed-capitate, very slightly dilated  
 and obscurely <sup>marginate</sup>. Ovary ovate, strictly one-  
 celled; the two narrowly bitamellar  
 placenta sessile, and so appear-  
 ing like four placenta closely  
 approximate in pairs. Ovules an-





triflorous, very numerous. Fruit <sup>not seen</sup>  
~~(close with the flowering specimens)~~  
~~globose-ovoid, obtuse, one-celled,~~  
~~externally resembling that of *G. Benthamii*,~~  
~~as also do the seeds,~~

Well does Bentham remark  
 that ~~white~~, on the one hand,  
 while "Hagreas may almost  
 be characterized as *Gardenias*  
 with a free ovary", on the other  
 the genus forms the nearest real  
 approach in the whole family  
 to *Gentianeae*. Comparing it with  
 some species of *Lisianthus*, the  
 chief ordinal distinction consists  
 in the greater development of the pla-  
 centae and fleshy fruit." In ~~this~~  
 the present species we find the  
 axillary placentae as strictly pa-  
 rietal as in most *Gentianeae*, -  
 much more so than in *Lisi-*

anthers, itself. *Lagras*, also, have the  
~~characteristics~~ properties of *Gentianeae*.

The corolla in Plate (which  
 was engraved before the collection passed  
 into my hands) represents the corolla  
 as too regularly funnel-form, the  
 tube gradually <sup>and too widely</sup> expanding ~~into the~~  
 upwards. A more correct delineation  
 of the shape of the corolla is  
 added in figure 1.

Plate B. *Lagras gracilipes*. Fig.

1. A flower, of the natural size and  
 shape. 2. The corolla laid open. 3. A  
 magnified stamen, seen ~~from~~ dorsally. 4. Ven-  
 tral view of the same. 5. Pistil magnified.  
 6 Magnified transverse section of the ovary.

*Lagras Niliensis*, seen, in Bonpl.  
 l.c., is a third species of the Feejee Islands,  
 of which my specimen is insufficient  
 for determining the relationship.

375-38

Gouthovia

Calyx quinquepartitus, segmentis imbricatis rotundatis crassis, marginibus tenuibus. Corolla brevis, quinquefida, aestivatione valvata. Stamina 5, tubo vel fauci inserta: filamenta brevia vel brevissima: antherae oblongae. Ovarium biloculare, ovatum, stylo apiculatum: stigma subcapitatum, bilobum. Ovula in placentis medio dissepimento adnatis plurima, amphitropa. Fructus clavatus, drupaceus, basi attenuatus, sarcocarpio tenui, putamine lignoso percrasso, 2-1-loculari, 2-1-sperma. Semina . . . . . Arbores Vitienses, glabri, stipulis *Labordeae*, foliis subcoriaceis penninerviis obovatis, cyma terminali e radiis 2-4 apice multifloris, floribus parvis hand pedicellatis, corolla fere *Strychnarum* breviflorarum.

Gouthovia, Gray in Proceed.

Ann. Acad. 4, p. 36, 45, p.  
320.

Since the publication, in 1859.  
(supra cit.) of a portion of my  
observations upon the *Loganiaceae*  
of the Expedition, Dr. Seemann  
in his visit to the Fee-  
jee Islands has fortunately collected  
flowering specimens of this,  
and of another very nearly related  
but <sup>perhaps</sup> ~~probably~~ distinct species; also  
full-grown fruit of the former,



These materials confirm the genus as a very distinct one, and fix its position in the neighborhood of *Stychnos*,—calling however <sup>for</sup> some extension of the character of Benthams third tribe. There are indications of dimorphism or incipient difference in sexes in the flowers examined. In different blossoms of the same cyne of *C. cony-*  
~~say~~ noearpa, some corollas are beardless or nearly so and have the anthers nearly sessile on the throat, while others are conspicuously bearded in the throat, and their equally subexserted anthers are borne on filaments of their own length inserted some way down on the tube; the style also is sometimes slender and exserted, when I suspect the ovary is infertile or less fertile, and sometimes shorter or

even very short, and then the  
way is surely futile.

(Tab. )

1. Conthovia corynocarpa, Sp. M.

6. Calycis segmentis ciliolatis;  
antheris ~~sagittatis~~ oblongis  
utrinque emarginatis.

Gartnera pyramidalis, Seem.,  
in Bourplandia, 1851, p. 257,  
no. 303.

Hab. Feejee Island; at Oro-  
lau and Sandal-wood Bay.

A shrub or tree, glabrous ~~throughout~~  
throughout. Leaves opposite, cori-  
aceous, but rather thin, petiolate,  
obovate-oval or oblong, obtuse,  
(3 to 5 inches long, 1 1/2 to 4 inches broad  
entire); the midrib and four or  
five pairs of primary veins rather  
prominent on both sides, the  
veinlets inconspicuous. Stipules  
conspicuous, forming a truncate  
sheath <sup>of 3 lines in height</sup> connate with the petiole,  
and somewhat higher between them.  
Inflorescence a terminal, sessile  
or short-peduncled, umbellately  
3-4-radiate, ~~cyme~~ naked cyme;  
its primary divisions an inch or  
more in length; the flowers sessile  
on the ultimate divisions. Bracts  
obsolete or deciduous. Calyx hardly  
above a line in length, exactly that  
of a Lagrea or a diminutive scale;



(a pair of small pits or glandular spots  
on the inner face of each near the base,  
the lobes rotund, thin-margined,  
ciliolate; Ovary ovoid, somewhat  
pointed, <sup>after anthesis</sup> a little larger than the  
persistent calyx, tipped with a small  
entire stigma, two-celled. Placentae  
thick, conformed to the shape of the  
cells, fixed by their middle to the  
middle of the thickish dissepimen-  
ment, their whole outer face cov-  
ered with amphitropous ovules.  
Fruit, not yet mature, club-shaped  
or fusiform and stipitate, an inch  
or less in length, short-pointed,  
ligneous in texture, manifestly  
indehiscent, perhaps having a  
thin and somewhat fleshy epicarp  
when mature, but ~~not~~ apparently  
mucumtaceous; the two nar-  
row cells separated by a thick lig-  
neous partition. Placentae in the  
specimens examined ~~thin~~ rather thin,  
and with the margins recurved.  
No seeds were found. The corolla



42

and Stamens had fallen from all the specimens.

So perfect as are the materials of this plant, I cannot doubt that it is a new generic type in Loganiaceae, of Apocynoid affinity, which does not fall in to any of Benthams tribes as at present constituted. The corolla and stamens are needed to settle the particular relationship of this curious plant.

The genus is dedicated to the ardent and enterprising Conchologist, Joseph P. Benthony, Esq., ~~the~~ one of the Naturalists of the Expedition.

To the above I have to add that flowers, now furnished by Dr. Seemann, but not in very good state of preservation, pretty closely resemble those of the following species (if such it be), except that the ~~the~~ sepals are

minutely ciliate, and the <sup>(oblong)</sup> anthers  
~~oblong~~, very obtuse at both ends;  
~~and~~ the beard of the throat of the  
corolla either obsolete or conspic-  
uous (as already noticed), but  
not so strong as in Seemann's  
no 305. The style, also, com-  
monly equals the corolla in length  
<sup>while in our specimens it is short and thick, or</sup>  
~~but this~~. I am confident, is a

subsexual distinction. The nearly  
mature fruit, of my specimen from  
Dr. Seemann is almost two inches  
long, obovate-clavate, attenuate and  
flattened at the base, coated with a  
thin and closely adherent epicarp, which  
is ~~doubtless~~ apparently fleshy in the  
fruit plant, while the whole interior  
is a ligneous putamen, by abor-  
tion one-celled, the cell scarcely  
more than a line in diameter, filled  
with a single ~~cylindrical~~ appa-  
rently albuminous seed, the structure

I have not sufficient materials  
for investigating.

Plate

Coultovia coryno-

carpa. Fig. 1. Portion of inflorescence, with  
a fruit, and calyx with the pistil after the  
fall of the corolla. 2. Inside view of a sepal.  
3. Vertical section of calyx and pistil. 4. A  
vertical section of a pistil showing the placenta  
of one cell, covered with ovules. 5. Transverse

section of the ovary. 6. Vertical sec-  
tion of a fruit, dividing the placenta.  
7. Transverse section of the fruit and  
recurved (sterile) placenta.



2. Gortneria Seemannii.

C. calycis segmentis ~~the~~ marginibus  
glaberrimis; antheris subsagittatis;  
~~A~~ corollae faucibus  
albo-barbatis, an semper?

Gortneria barbata, Seem. l.c. no. 305.

Hab. Fieje Islands, Dr. Seemann.  
In blossom only.

Folige, &c. as of C. corymbosa,  
of which, probably it may be only  
a variety. Calyx ~~deep~~ 5-parted, the  
lobes orbicular, with <sup>thin and</sup> glabrous edges,  
half a line long, not glandular ~~is~~  
inside. Corolla white? two lines in  
length, 5-cleft to the middle. The lobes  
ovate, valvate in aestivation, the  
excessively villose bearded with white  
villose hairs. Stamens in all the  
flowers examined inserted on the middle

of the tube; the filaments about the length of the anthers; the lobes of the latter acute at the base. Ovary ovate, tapering into a short and thick style, which is tipped with a subcapitate and more or less 2-lobed stigma; the pericarp thick. Ovules numerous upon each placenta, ~~and~~ a dozen or more, amphitropous.

I suspect that the beard of the corolla will vary as in the C. conovocarpa, wherefore I have not adopted the specific name barbata.

## 7. Strychnos, Lin.

### 1. Strychnos triplinervia, Mart.

Hab. Brazil, in the vicinity of Rio Janeiro. (Foliage.)

### 2. Strychnos colubrina, Lin.

Hab. Mangsi Islands; a fragment in blossom and another in fruit. Direction Island, a small island of the Feejee group; in fruit; Collected by Dr. Seemann in blossom.

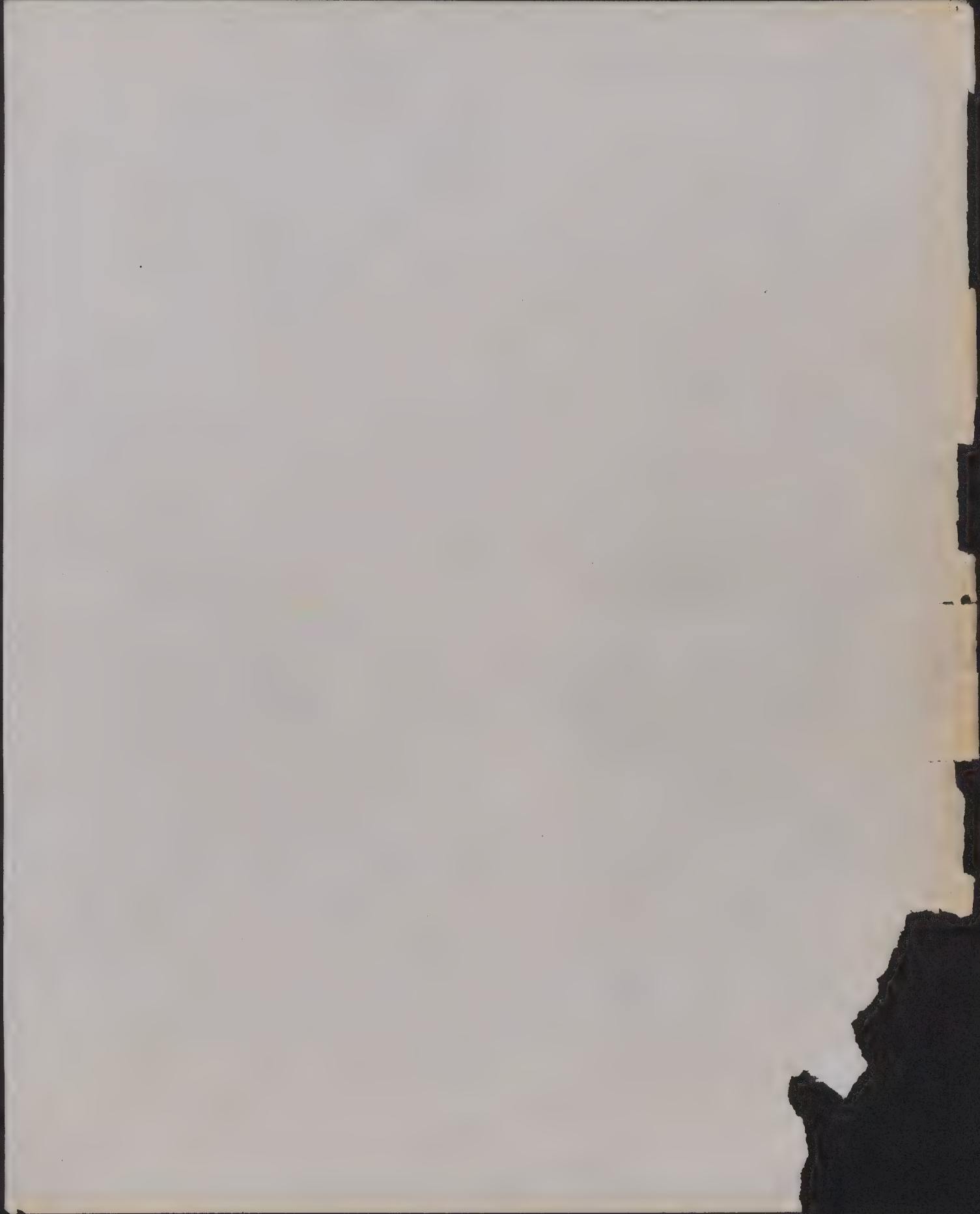
47  
1. Logania, N. Br.

1. Logania floribunda, N. Br.

2. Logania pusilla, N. Br.

Stat. New South Wales, in the  
vicinity of Sydney.





*My dear Sir*

*Yours very truly*

Ord. Myrsinaceae.

1. Masa, Forsk.

1. Masia memoralis, A. DC.

Masa memorialis, A. DC. in Lin.  
Trans. 17. p. 134, & in DC. Prodr. 8,  
p. 79.

M. Baobabys, Röem. Schult. Syst. 5. p.  
226.

Baobabys (<sup>char.</sup> Forsk. Gen. t. 11) memoralis,  
Vahl, Symb. p. 19.

Hab. Tongatabu, and Samoa  
Islands. Also Navan, S. Friendly  
Islands, J. Harvey.

To the description of De Candolle,  
which in almost all respects well  
applies to our specimens, I may



add that the plant is perfectly  
glabrous throughout, and the leaves  
mostly oval (rather than obovate)  
obtusely or rounded at both ends, or  
sometimes acuminate, from 2 to  
6 inches long and  $1\frac{3}{4}$  to  $3\frac{1}{2}$  inches wide,  
smooth; and with undulate, but hardly  
at all toothed margins; the Petiole  $\frac{2}{3}$   
to  $1\frac{1}{2}$  inches long. Racemes 2 or 3 inches  
long, rather loosely flowered; the pedic-  
els mostly divaricate, pentangular,  
 $1\frac{1}{2}$  lines long. Bracts, bractlets, and calyx-  
lobes broadly ovate and obtuse, espe-  
cially the latter. Lobes of the corolla  
quinque-lobed in aestivation, two exterior  
Drupes 2 lines in diameter, globe-  
lar-ovoid.

2. Masa Pickeringii, Sp. nov.

M. foliis lato-lanceolatis oblongisve subintegerrimis max glabris, nascentibus ramulisque pilosis; ~~racem~~ racemis axillaribus simplicibus variisve compositis gracilibus; calyce cum bracteis ovato-subulatis hirsuto, lobis ovatis acutis corollae tubum subaequantibus; drupis ovoides.

Hub. Feejee Island; on the north side of Viti-levu.

Besides the hairy pubescence of the inflorescence, and especially of the calyx, this differs from the preceding in the narrower leaves, varying from lanceolate to elongated-oblong, smaller flowers, narrower and acute bracts and bractlets, &c. Pedicels barely a line long, twice the length of the bract.

~~And the following.~~

3. Mesa pericarpa, Sp. nov.

M. glabra; foliis lato-lanceolatis integerrimis, venis transversis; paniculis axillaribus folio subinferioribus; floribus paucis; breviter pedicellatis; bracteis bracteolis lobisque calycis ovato-acutis; corollae tubo campanulato calyce paullo longiori; seminis ovoido-globosis brevissime pedicellatis.

Hab. Feejee Islands, at Abria Bay, in flower. Collected by Professor Stanley in fruit. A flowering specimen; somewhat like M. ramentacea, but with narrower leaves (3 or 4 inches long and at most  $1\frac{1}{4}$  wide), oblong-lanceolate, the primary veins (9 to 13 pairs) nearly transverse. Racemes panicle, slender, glabrous but minutely glandular: pe-



dicels half a line long, <sup>a little</sup> longer than the bract. Lobes of the calyx acute (not very obtuse, <sup>they are</sup> as in *M. ramentacea*). Corolla half a line in diameter. Drupes, in Prof. Harvey's specimens, at most a line and a half in diameter, subsessile.

No. 287 of Dr. Seemann's recent Feeje Collection, referred in his list to "*M. Indica*, var." is ~~possibly~~ <sup>perhaps</sup> a form approaches *M. persica folia*, but the pedicels are longer, and the leaves broader, of thicker texture, and the primary veins <sup>much</sup> more ascending.

4. *Masa ovata*, A. DC.

Hab. Singapore. Imperfect specimens.

5. *Masa Indica*, A. DC. l.c.

Hab. Luzon, Philippine Islands, in the mountains near Manila; the variety *Nighiliana*, like Burnings' plant.

Dr. Seemann's no. 286, from the Feeje Islands, as to the large-leaved and somewhat pubescent plant, is hardly *M. Indica*; the glabrous and small-leaved specimens are probably belong to *M. nemoralis*,  
(which Dr. Harvey also collected)

b. Masa corylifolia, Sp. Nov.

M. foliis ovatis cordatis repando-  
dentatis cum raris paniculisque  
(terminalibus et axillaribus folium  
adæquantibus) dense mollissime  
<sup>superius</sup> pubescentibus; <sup>max glabris</sup> pedicellis flore  
non longioribus; bracteis bracteo-  
lisque ovato-subulatis parvis;  
calycis lobis triangulari-ovatis  
villosis tubum corollæ brevi-  
campanulatae fere æquantibus  
(drupis ovoides puberis).

Hab. Feejee Islands; on the  
mountains of Muthuata, at the  
elevation of 1000 feet.

"A weak shrub," with a very  
soft, fulvous, villous pubescence.  
Leaves ovate or ovate-oblong, and  
cordate with a narrow sinus, 3 or  
4 inches long,  $1\frac{1}{2}$  to  $2\frac{1}{2}$  inches wide,



7  
more or less acuminate, either  
strongly and sharply or rather ob-  
scurely, repand-dentate, very velvety  
to the touch, especially underneath,  
above becoming glabrous with age;  
the primary veins conspicuous, spread-  
ing: petioles half an inch or  
an inch long. Panicle of num-  
erous racemes: pedicels rarely more  
than half a line long, about the  
length of the calyx; ~~the~~ the latter  
adherent nearly to the summit of the  
ovary, its broad lobes acutish, bract  
very short-campanulate, when expanded  
nearly a line and a half in diameter,  
the lobes ovate-round. Fruit un-  
known.

Dr. Seemann has recently col-  
lected and distributed printing speci-  
mens of this (no. 288, sub nom. M.  
macrophylla?): the drupes are ovoid,  
a line and a half long, and retain the  
pubescence of the ovary. It is quite  
distinct from M. macrophylla.

## 2. Samara, Lin.

### 1. Samara aurantiaca?

Choripetatum aurantiacum, A. DC.  
in Lin. Trans. 17, p. 131, & Prodr.  
8, p. 88?

Stat. Small Island in the Sooloo  
Sea. Specimens in fruit only,  
of doubtful identification.



3. Embelia, Burm.

1. Embelia Nibes, Burm.

Stat. Singapore, in fruit.

4. Myrsine, Lin.

1. Myrsine umbellata, Mart., Miq.

Myrsine umbellata, monticola, Duphni-  
tes, & glomeriflora (Mart. Herb. Fl. Bras.)  
& Martiana, A. DC. Prodr. 8, p. 101.

M. umbellata, Miq. Fl. Bras. Mys.  
p. 310, t. 55.

Stat. Brazil, near Rio Janeiro;  
the variety vulgaris of Miquel in  
the Flora Brasiliensis, t. 55, f. 1.

M. Richardiana, Endl. in Ann.  
Wien. Mus. 1, p. 171.

Suttonia australis, A. Rich. Fl.  
N. Zed. p. 349, t. 38; Hook. f. Fl. N.  
Zed. 1, p. 172.

Stat. Bay of Islands, New Zealand.

5. Myrsine divaricata, A. Cunn.

Myrsine divaricata, A. Cunn. Prodr.  
Fl. N. Zed. p. 47; A. D. C. l. c.

Suttonia divaricata, Hook. f. Fl. Antares.  
1, p. 51, t. 34, & Fl. N. Zed. 1, p. 173.

~~(in fruit.)~~

Stat. Waiapu Bay, New Zealand.  
Auckland Islands. In fruit.

Neither the stigma nor the poly-  
petalous corolla will distinguish ~~the~~  
Suttonia from Myrsine. As to the  
reduction of the ovules to one or two,

2 Myrsine Manglilla, Roem. & Schult.

Hab. Peru, in the vicinity of Lima and Callao.

3. Myrsine salicina, Stewart.

Myrsine salicina, Stewart in Hook.

Lond. Jour. Bot., 1, p. 283.

Suttonia salicina, Hook. f. Fl. N. Zeal.

1, p. 172, t. 44.

Hab. Bay of Islands, New Zealand.  
With undeveloped inflorescence.

4. Myrsine Mvilliei, A. D. C.

Myrsine Mvilliei, A. D. C. in Linn. Trans.

17, p. 105, & Prodr., 8, p. 94.



Dr. Hooker figures four in his  
S. nummularia.

b. Myrsine Lessertiana, A. DC.

M. glabra; foliis crasso-coriaceis  
oblongo-lanceolatis seu obovato-  
spathulatis integerrimis costato-  
venosis nervo juxta marginali cinctis,  
petiolo brevissimo crasso; pedicellis  
2-5-nis, puctiferis drupa subglobosa  
longioribus; calycis lobis  
obtusissimis ciliolatis; corolla  
5-petala aestivatione valvata.

Var. a. foliis oblongo-lanceolatis  
seu elongato-ellipticis utrinque  
angustatis acuminatis,  
Myrsine Lessertiana, A. DC. Prodr. 8,  
p. 96.

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Var.  $\beta$ . foliis oblongis basi cuneatis vel cuneato-obovatis plerumque obtusis.

Hab. Sandwich Islands; on the mountains behind <sup>Honolulu</sup> Oahu (where it was gathered by Sandichand, Kory, &c.); also Hawaii, in the District of Puna, and on Mouna Kea, at the elevation of 6000 feet.

According to Dr. Pickering this species on Oahu is a shrub, on Hawaii, a tree, forty feet high. One specimen, from Oahu, having lanceolate-oblong leaves tapering to both ends ( $2\frac{1}{2}$  to 3 inches long and 7 to 12 lines wide) accords with Sandichand's plant upon which Seem-doll founded his *M. Lessertiana*. The others have more or less obovate or cuneate-oblong and obtuse, or even

retuse, leaves, the largest 5 or 6 inches long and 2 or 3 inches wide, thick and coriaceous, the margin somewhat revolute. One specimen bearing flower-bud (from 2 to 5 from the same general ~~bud~~ scaly bud) in the axils of the older leaves, enables me to ascertain that the petals are distinct to the base, and are val-  
vate in aestivation. The corolla is globular in the bud and then scarcely hardly exceeds the already open divisions of the calyx. Pedicels in flower a line or a line and a half long, in fruit  $2\frac{1}{2}$  to 4 lines long. Drupes as large as peas, when mature nearly spherical, apicu-  
late.



7. Myrsine Sandwicensis A. DC. l.c.

Hab. Sandwich Island; Oahu,  
in the mountains behind Honolulu;  
and Hawaii, <sup>District of Puna,</sup> near the Great Crater,  
Is. Also, probably the same species,  
on the mountains of Kauai, with-  
out flowers or fruit.

This, according to Dr. Pickering  
forms a <sup>shrub 6-10 ft. high</sup> small tree, thirty feet  
high, with the trunk a  
foot in diameter; the leaves be-  
aptly compares with those of  
Uva-ursi. Many of them are no  
larger; the longest are an inch and  
a half in length. The narrow-leaved  
form mentioned by Dr. Pickering (  
the most slender oblanceolate and  
only 2 or 3 lines broad), which was  
long since collected by Macrae, with-  
out flowers or fruit, passes freely  
into those with obovate-cuneate

15  
leaves. Dr. Pickering notes the  
flowers as "small and purplish".  
The specimens furnish a single  
flower-bud, which in structure  
accords with the foregoing species,  
the petals being distinct to the  
base and valvate in aestivation.  
Here the difference between a deeply  
parted and a polypetalous corolla  
is evidently not of generic ~~consequence~~  
importance. De Candolle's tribe Em-  
belieae, <sup>manifestly</sup> ~~clearly~~ should be suppressed,  
along with his two suborders, which  
do not merit such a distinction.

I have seen nothing answering  
to M. Gandichandii, A. D. C., with  
subseriate ~~flowers~~ fruits and trian-  
gular acute calyx-lobes.



8. Myrsine Tahitensis, Sp. Nov.

M. glaberrima; foliis crasso-coriaceis oblongo-ellipticis sen ovalibus integerrimis utrinque obtusis brevis-sime petiolatis supra nitidis utrinque crebre costato-venosis, venis venulisque reticulatis prominulis; pedicellis fructu longioribus; calycis fructiferi lobis 4 triangulari-oratis acutiusculis.

Hal. Society Islands, in the mountains of Tahiti.

A specimen with full-grown fruit; the leaves thick and coriaceous, 3 to 5 inches long by  $1\frac{1}{2}$  to  $2\frac{1}{2}$  inches wide, <sup>on</sup> ~~and~~ very short petioles; the primary veins 20 to 30 pairs, conspicuous, especially on the shining upper surface, connected by conspicuous reticulated veinlets, loosely



17      17

anastomosing towards the margin, but not forming so distinct an intra-marginal false vein as in M. Lessertiana. Pedicels several in a fascicle from a sessile & caly bud, in fruit 3 lines long; the persistent calyx not ciliate. Flowers unknown.

9. Mysine crassifolia, R. Br.

Mysine crassifolia, R. Br. Prodr.  
p. 534; A. DC. Prodr. 8. p. 96.

(Hab. Mountains of Tahiti; a very imperfect specimen with young fruit. Mountain ridge of Tutuila, Samoan Islands, without flowers or fruit; but pretty well agreeing with M. crassifolia collected on Norfolk Island by Cunningham. A specimen of



Bardley's from Ambouma appears  
to be <sup>the</sup> same species, with ~~rather~~<sup>the</sup>  
~~longer~~ pedicels as long as the fruit,

10. Myrsine <sup>myricifolia</sup> ~~myricoides~~, Sp. M.

M. glaberrima; foliis subspathulatis  
seu oblongis basi cuneatis in  
petiolum attenuatis integerrimis  
apice <sup>sepius</sup> retusis utrinque <sup>crebre</sup> punctulatis,  
venis <sup>vix</sup> ~~haud~~ perspicuis; floribus  
tetrameris sessilibus; calycis lobis  
lato-ovatis obtusissimis; corolla  
quadripartita; drupis globosis.

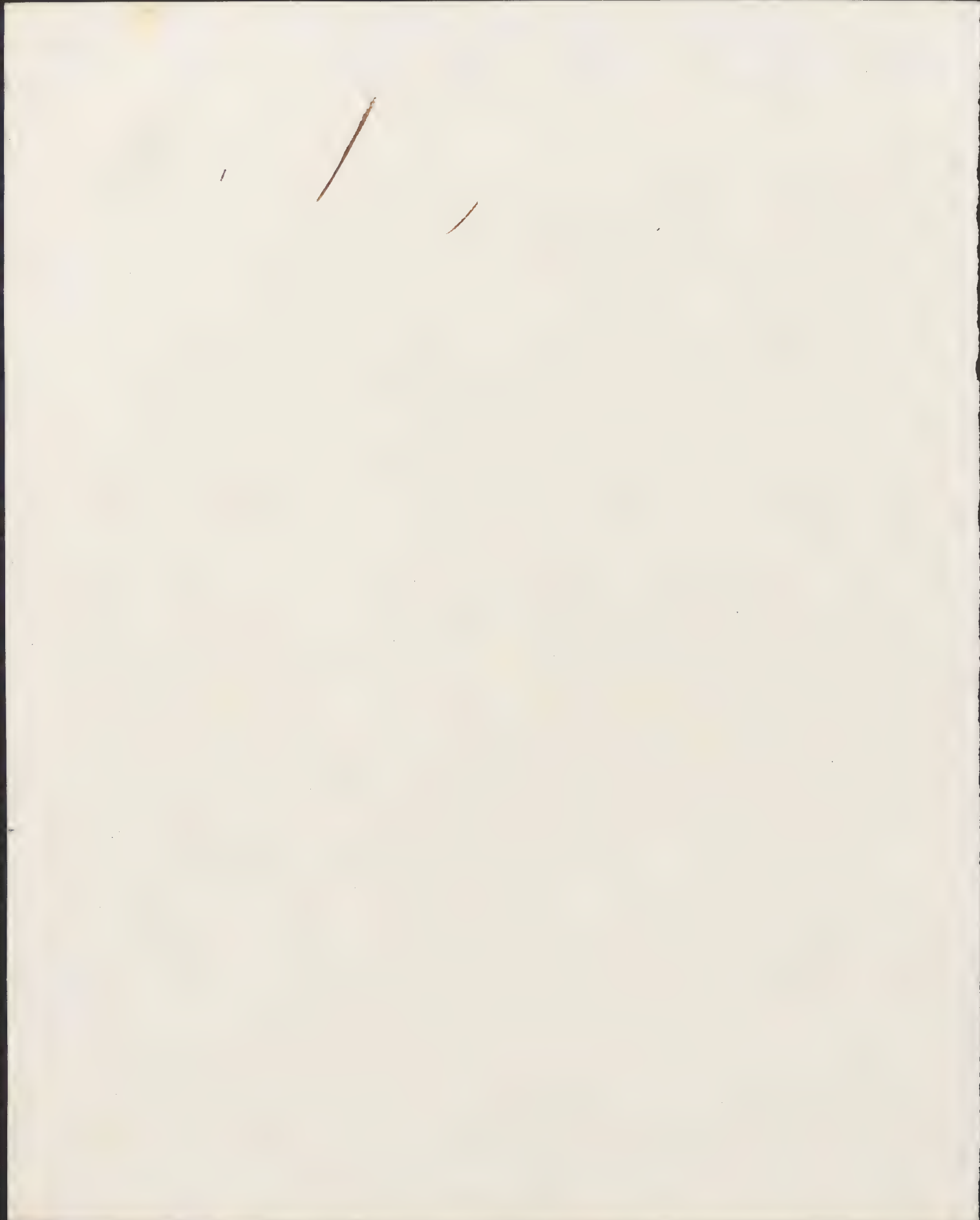
Hab. Muthuata, Feejee Island,  
on the mountain-summit, at the ele-  
vation of 2000 feet. Also mountains  
of Vimeu, Society Islands. I have  
it also from some one of the "Pacific  
Islands, collected by Mr. Cunningham,



18  
This is recorded by Dr. Pickering  
as "a bushy plant, fifteen to twenty  
feet high, in the Feeje Islands.  
The leaves in shape and size may  
be compared with those of *Mypica*  
*cerifera* <sup>(and are equally variable)</sup>, ~~and Gale~~, but are quite  
entire, opaque, smooth, and in-  
conspicuously veined,  $1\frac{1}{2}$  to  $2\frac{1}{4}$  or rarely  
 $2\frac{1}{2}$  inches long (including the slender  
petiole of 2 to 4 lines), and 4 to 8 lines  
wide, thin coriaceous or chartaceous,  
~~sometimes~~ <sup>sometimes</sup> ~~obovate~~ <sup>obovate</sup> ~~spatulate~~ <sup>spatulate</sup>, ~~sometimes~~ <sup>sometimes</sup> ~~lanceolate~~ <sup>lanceolate</sup>. ~~oblong~~  
Flowers 2 or 3 in a fascicle from sessile  
axillary scaly buds, their pedicels even  
in fruit <sup>much</sup> shorter than the calyx;  
the latter smooth and obscurely if  
at all ciliolate, very oblique, half  
the length of the vestiges of the corolla,  
the divisions of which are narrowly  
oblong and rather larger than the  
anthers. Stigmas subsessile, mem-  
branaceous dilated, as is common in  
this genus, ~~and~~ mostly divided into

two or three petaloid lobes or crests,  
Drupe globose, point less, barely 2 lines  
in diameter, <sup>closely</sup> sessile or nearly so, -  
by which it may be distinguished  
from any form of M. capitellata  
(incl. merifolia, Korthalsii, &c.). It  
may be <sup>more</sup> difficult to <sup>(mistakenly)</sup> distinguish <sup>this</sup> from M. crassifolia.

To the present species belongs the  
fruiting specimens of Dr. Serrano's  
no. 289 (while the female flowering  
specimens are ambiguous between  
this and M. crassifolia), also no.  
290, foliage only.





Two or three petaloid lobes or  
crests. Infruct globose, persistent,  
barely 2 lines in diameter, sessile  
or nearly so.

11. Myrsine? Brackenridgii, Sp. Nov.

M. glabra; foliis membranaceis ob-  
longis utrinque acutis vel acu-  
minatis petiolatis marginis  
integerrimis vel undulatis; pedi-  
cellis filiformibus fructu <sup>globo</sup> 3-5-  
plo longioribus; calyce 5- lobo,  
lobis rotundatis ciliatis.

Hab. Mountains of Ovolau,  
Feejee Islands.

The flowers are unknown, but  
the plant is probably a Myrsine.  
~~Branches stem~~ It is remarkable  
for its thin and membranaceous leaves.

and slender pedicels. Branches slender. Leaves either broadly or narrowly oblong, 2 or 3 inches long, an inch or more in width, usually acuminate, minutely punctate, the margins entire, or in one set of specimens undulate, so as <sup>in</sup> some leaves to appear crenately toothed: petioles 3 lines long. Pedicels fascicled in twos, ~~and threes~~ <sup>or rarely fives</sup>, or sometimes solitary, from axillary buds, the scales of which are deciduous (in the undulate-leaved form not rarely corymbed), 4 to 7 lines long. Young fruit globular,  $1\frac{1}{2}$  or 2 lines in diameter, subtended by the small calyx, the lobes of which are short, rounded, and ciliate. Apparently a straggling shrub in thick woods.

12. Myrsine Africana, Lin.

Hab. Cape of Good Hope, near  
Cape Town.

5. Cybianthus, Mart.

1. Cybianthus cuneifolius, Mart.

Cybianthus cuneifolius, Mart. <sup>(+ Zucc)</sup> M.

Gen. & Sp. 3, p. 88; A. DC. Prodr.

8, p. 116; Miq. in Mart. Fl. Bras.

Myrs. p. 293, t. 38.

Hab. Brazil, in the Organ Moun-  
tains. (C. fuscus, Mart. apparently  
is not specifically different.)



2

b. Ardisia, Swartz.

1. Ardisia pyramidalis, Pers.

Ital. Luzon, in the mountains near Manila.

The leaves are <sup>almost</sup> ~~nearly~~ entire; the peduncles and pedicels compressed; the divisions of the calyx very broadly ovate and strongly ciliate with jointed hairs.

2. Ardisia humilis, Vahl.

Ital. Feejee Islands; in fruit. Records <sup>rather well</sup> with Indian specimens. (Dr. Seemann's no. 290 and 291, probably the same, are not in our collection.)

b. Arria, Arria.

1. Arria paniculata, Perk.

14th, Arria, Arria at  
and, near Arria.

3. Ardisia? capitata, Sp. Mw.

A. arborea? glabra; foliis ad apicem  
ramorum crassorum congestis  
obovato-spathulatis ultra pedalibus  
subcoriaceis integerrimis reticu-  
lato-venulosis <sup>basi</sup> in petiolum brevem  
crassum attemperata angustatis;  
pedunculis axillaribus compres-  
sis simplicissimis capitulum  
strobilaceum gerentibus; ~~bracteis~~  
bracteis magnis squamaceis  
persistentibus.

Stat. Ovolan, Feejee Islands.

This is probably of a peculiar  
genus. The single and very imperfect  
specimen is ~~a branch~~ the sum-  
mit of a branch, half an inch  
in diameter, beset with large



and contiguous leaf-scars, and  
with crowded leaves at the ~~sum-~~  
~~mit~~ apex. These are from 12  
to 16 inches long, 4 or 5 inches  
broad, with a very stout midrib  
and slender but rather conspicu-  
ous veins connected by finely re-  
ticulated veinlets, and with evi-  
dent Myrsinaceous dots or glands  
in the meshes; the petiole an inch  
or less in length, very stout. Pedun-  
cles just below the leaves of the  
season, ancipital, about 2½ inches  
long, naked except at the summit,  
where a rachis half an inch long  
bears obovate, concave, squamaceous,  
~~from~~ dark-punctate, apparently  
persistent bracts, which are fully  
half an inch long. From their  
the flowers have fallen, leaving  
large scars, ~~whether of single short~~  
~~pedi~~ (A memorandum by Mr.

The Academy accordingly  
 at present consists of 156 Members  
 follows: of which the first class has 48,  
 second class 48,  
 third class 60.

26

Rich, which accompanies the specimen, states that the "corolla is deeply five-cleft; the style filiform; and every part of the flower covered with pellucid dots. \*

7. Aegiceras, Gartn.

1. Aegiceras majus, Gartn.

Hab. Sydney, New South Wales,  
Island in the Soloo Sea.

\*

Adisia grandis, Scem., ~~from~~  
no. 293. from the Feeje Islands (in fruit  
only) considerably resembles this in  
foliage, but has the yroid panicles.



Ord. Primulaceae, Vent.

1. Primula, Lin.

1. Primula farinosa, Lin. var. Magellanica <sup>ica, Hook. f.</sup>

Primula farinosa, L. var. Magellanica,  
Hook. f. Fl. Antarc. 2, p. 337, t. 120.

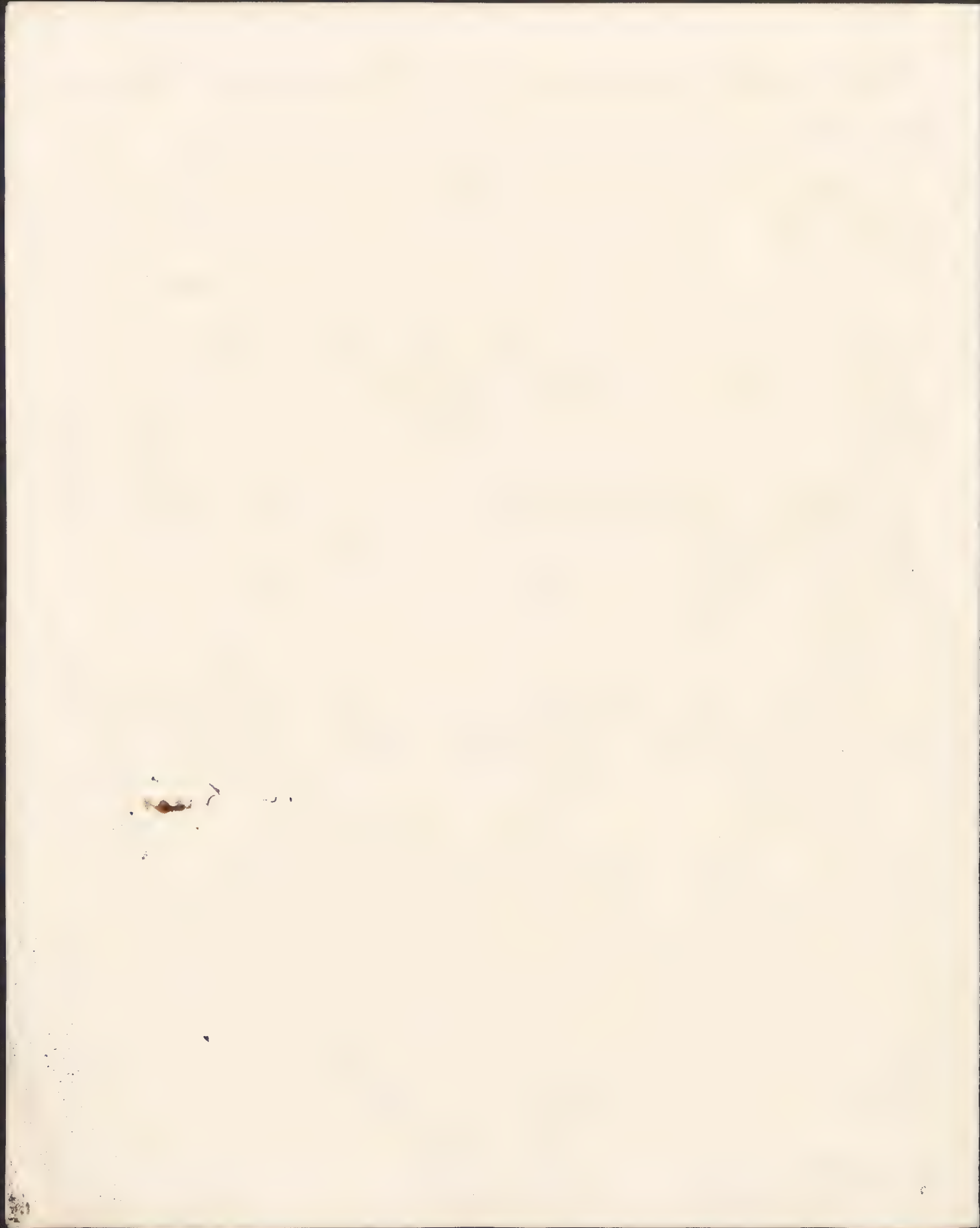
P. Magellanica, Lehm. Prim. p. 62,  
t. 6; Duby in Ob. Prodr. 8, p. 45.

P. decipiens, Duby, in Ob. l.c. p.  
44.

(mostly in fruit.)  
Ital. Orange Harbour, Isle of

Dr. Hooker has discussed at  
some length the question of the  
specific identity of the Antarctic  
Primrose with the P. farinosa of the  
Old World and the Northern Hemisphere,  
and reached an affirmative  
conclusion, the white corolla being

The only constant character known  
to distinguish it. No form or  
near relative of this species occurs  
~~elsewhere~~ on the American continent between  
the Antarctic regions and the north-  
ern borders of the United States;—so  
that this is <sup>one of</sup> ~~perhaps~~ the strongest case  
that can be adduced in favor  
of the hypothesis of a double or  
multiple origin of species.





3

2. Lysimachia, Lin.

1. Lysimachia lineariloba, Hork. & Arn.

Lysimachia lineariloba, Hork. & Arn.

Bot. Beech. Voy. p. 268, vix Zucc.

L. lubinioides, Diels. & Zucc.

Ham. Nat. Fl. Jap. (in Mém. Acad. Monac.) 2. p. 16.

Hab. Sandwich Islands, on the coast near Hilo, Hawaii; in fruit. Collected by Kuny, in much better specimens on Maui and Nihau.

Except that the flowers (seen only in Kuny's specimens) are smaller, no notable difference appears ~~between~~ between the plant of the Sandwich Islands and <sup>five</sup> specimens ~~of~~ gathered by Mr. C. Wright on the Looehoo Islands and also in Japan, the more luxuriant forms of which are identical with

4

(an authentic  
one of "L. lubinioides, Sieb. & Rucc."

Distributed from the Leyden Herbarium.  
But ~~it is~~ Ruccarini's L. linearis-  
lba from the Borin Islands appears  
to be different, as it is said to have  
lanceolate acute sepals and pedi-  
cels scarcely two lines long. Still  
it very well accords with Storker  
and Arnott's brief character of  
that species (the plate of which, refer-  
red to in the letter-press, was not pub-  
lished), except that the <sup>divisions</sup> ~~lobes~~ of the  
corolla are spatulate rather than  
linear. ~~As it~~ rendering the spe-  
cific name rather deceptive; yet it  
is hardly necessary to relinquish it  
in favor of Siebold and Ruccarini's  
~~name~~ better name of lubinioides.

The plant is herbaceous, although  
the ~~base~~ <sup>root</sup> sometimes hardens, branching  
from the base, the branches ascending,  
mostly simple, leafy; the thickish leaves



by no means "impunctate." Rue-  
carini's description (under L. lubini-  
oides) ~~is a well applied, ex~~ is a  
good one, except that the style is not  
short, nor are the filaments in his  
own plant monadelphous at the  
base.

L. Lysimachia Stillebrandi, Hook. f.

L. fruticosa, glabrata, ramosa; ramis  
<sup>alternis nunc verticillatis</sup>  
indique foliosis; foliis ellipticis ob-  
longis lanceolatisve saepe acutatis  
vel acuminatis subcoriaceis laxe  
reticulato-venosis; pedunculis ex axillis  
superioribus mutantibus unifloris  
ferugineo-pubescentibus; floribus  
5-8-meris; corollae subrotatae lobis  
late obovatis sepala ovato-lanceo-  
lata acuminata fere bis super-  
excedentibus; filamentis basi mon-



6  
adelphis styloque gracilibus,

Lysimachia Stillebrandi, sp. nov.  
Hook. f. in litt.

Var.  $\alpha$ . foliis ellipticis seu elliptico-  
lanceolatis basi in petiolum angus-  
tatis

Var.  $\beta$ . daphnoides; foliis oblongis  
arcte sessilibus crebris.

Var.  $\gamma$ . angustifolia; foliis lineari-  
lanceolatis creberrimis.

Stat. Sandwich Islands: on the  
Mountains behind Honolulu, Oahu,  
at the elevation of 2000 feet or more,  
(where it was also collected by William  
Stillebrand, Esq. M. S. Consul, and com-  
municated to Dr. Hooker); and Mouna  
Haleakala, E. Maui, with a series of  
narrow-leaved forms passing into Var.

No. 1, collected by Remy on the same island. Var.  $\beta$ . Mountains of Kanai.

This is a truly shrubby Primulacea and a genuine Lysimachia, attaining, I believe, several feet in height. The young ~~parts~~ shoots, the peduncles, &c. are clothed with a rusty pubescence, which is at length deciduous. <sup>The branches are very leafy throughout.</sup> The leaves are soon glabrous, and are mostly alternate; occasionally they tend to collect in whorls, and sometimes, especially in the narrow-leaved forms they become truly verticillate in <sup>threes</sup> ~~ones~~ fours, or fives. They vary greatly in shape and width, but intermediate forms connect those with the leaves  $1\frac{1}{2}$  <sup>to</sup> ~~or~~ 5 inches long and 8 or 9 lines broad with the ~~for~~ variety in Remy's collection having

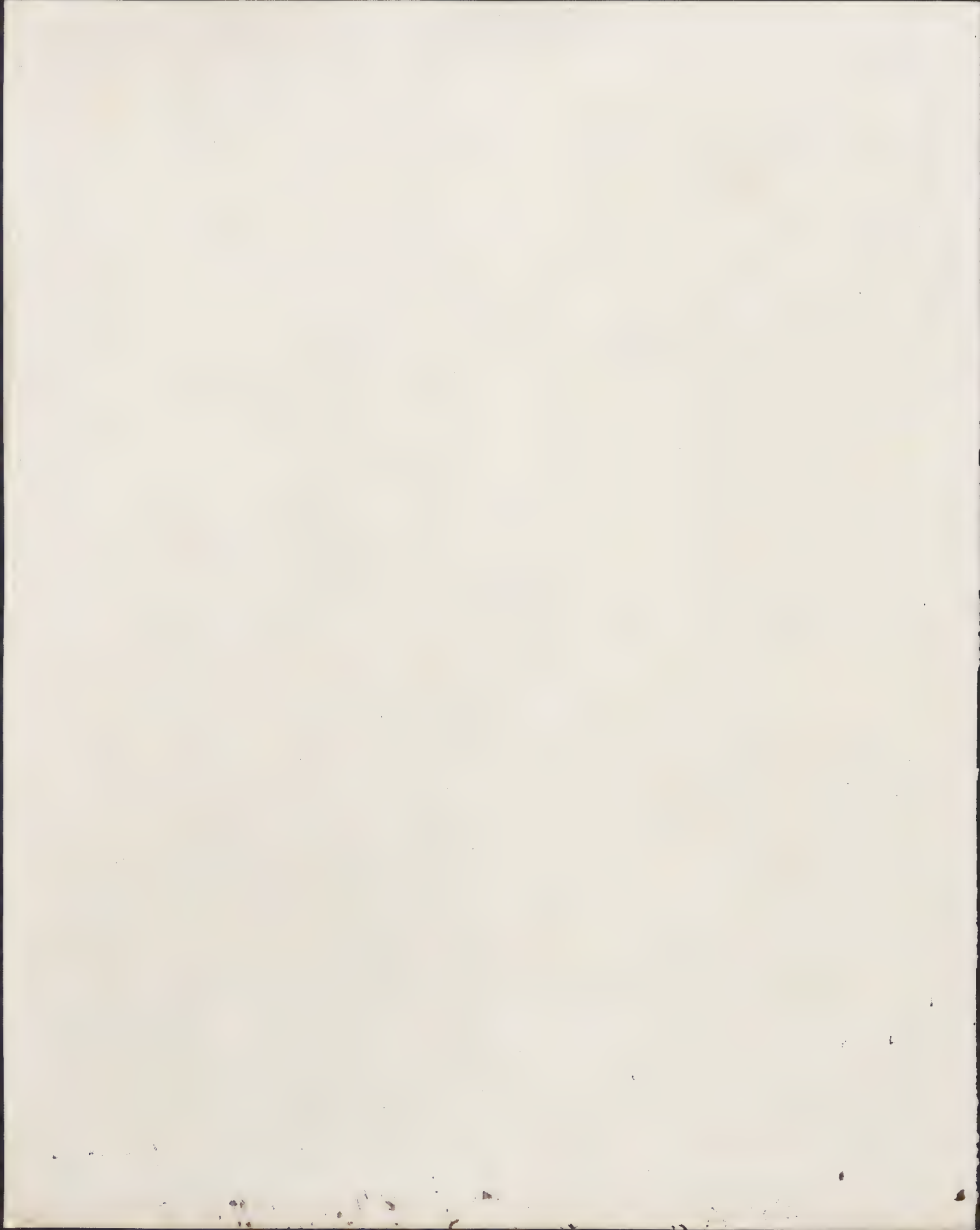


8

leaves an inch long and barely a line and a half wide. The broader leaves are usually acuminate at both ends, tapering at the base into a petiole of two or three lines in length, except in the variety from Kanai, in which they are sessile. Their slender veins, almost equally conspicuous on both surfaces, are finely reticulated, the extreme ramifications confluent into a juxta-marginal vein; ~~the~~ and a narrow margin is more <sup>the upper surface thickly and minutely punctulate,</sup> or less revolute; Peduncles single in the axils of the upper leaves, from 4 to 12 lines long, bractless, one-flowered, recurved toward their summit, so that the flower is pendulous. Flower sometimes pentamerous, more commonly hexamerous, heptamerous, or even octamerous; the calyx deeply parted into ovate-lanceolate, and acuminate divisions. Corolla dull purple or



9  
flesh-color? in shape between  
short-funnel form and rotate; the  
tube a line and a half long; the  
rotund-obovate lobes ~~about~~ 3 or 4  
lines long, convolute in aestivation,  
thickish, punctulate. Filaments  
inserted about the middle of the short  
tube of the corolla, subulate-fili-  
form from a narrow monadelphous  
ring, glandular-scarious, two thirds  
the length of the corolla: no inter-  
posed teeth. Anthers oblong. Style  
as long as the stamens. Stigma  
subcapitate. Ovary ovoid, very nu-  
merous, crowded on the axile placenta,  
amphitropous. Capsule globular,  
coriaceous, at length 5-7-valved, many-  
seeded.



10

Aragallis, Tourne.

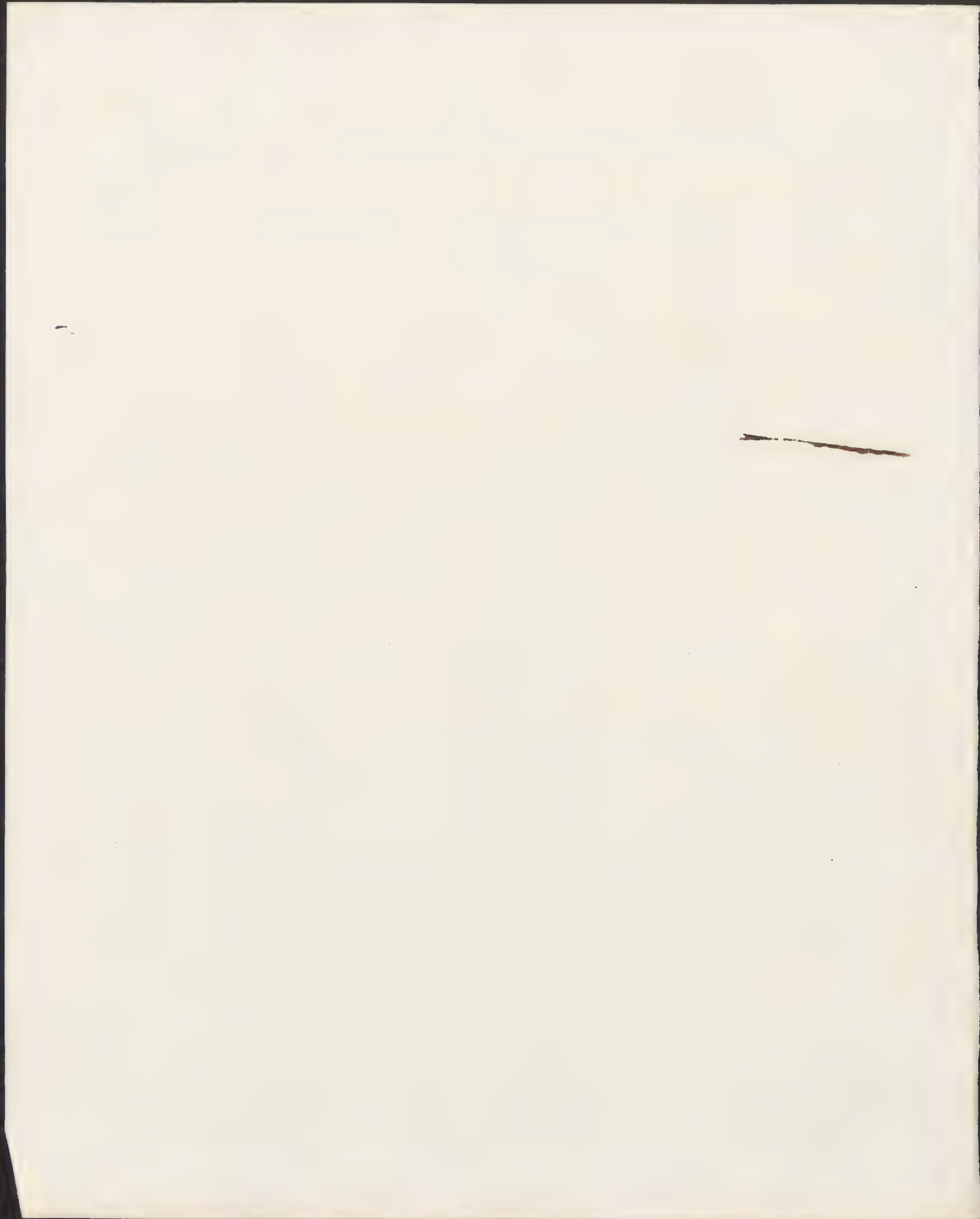
1. Aragallis arvensis, Lin.

Stat. Rio Janeiro, Brazil, Bay of  
Hounds, New Zealand, Hunter's River,  
New South Wales, Introduced from  
Europe.

2. Aragallis alternifolia, Bas.

Stat. Chili in the vicinity of  
Valparaiso; the ordinary form, and  
one scarcely distinguishable from the  
var. densifolia, Hook. f. Fl. Botare,  
2, p. 337 (Lysimachia repens, D'Uss.)  
which was collected at Orange Harbour,  
Tonga.





11

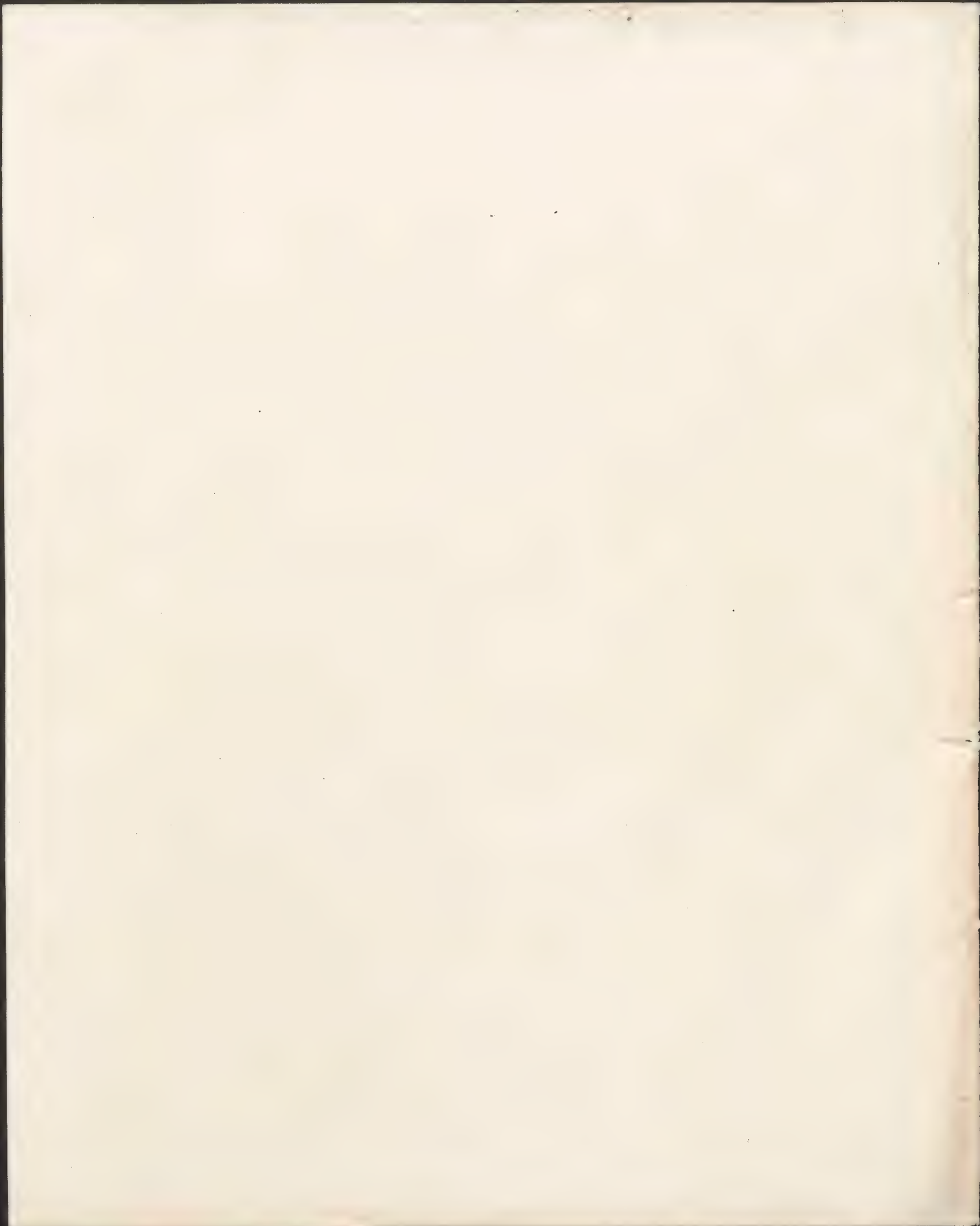
4. Samolus, Lin.

1. Samolus Nalerandi, Lin.

Stat. Madeira. Rio Negro, N. Pata-  
gonia: <sup>apparently by the European plant form,</sup> Chili near Valparaiso; and Peru at  
Callao; ~~The American forms are es-~~  
~~sentially~~ the <sup>Americana</sup> var. ~~floribunda~~ (S. floribun-  
da, W. & A.), as is the North American plant.

2. Samolus littoralis, R. Br.

Stat. Bay of Island, New Zealand.  
Sydney, &c. New South Wales.







Ord. Borraginaceae.

1. Echium, Tournef.

1. Echium candicans, Lin. f.

2. Echium fastuosum, Jacq.

3. Echium plantagineum, Lin.

Hab. Madeira, on the coast at Funchal, &c.

2. Lobostemon, Lehm.

1. Lobostemon lavigatus, Buck.

2. Lobostemon fruticosus, var. Bergianus <sup>DC.</sup>

3. Lobostemon argenteus, Buck

Hab. Cape of Good Hope in the vicinity of Cape Town.

3. Archusa, Linna.

1. Archusa Italica, Retz.

Hab. Madeira, in the neighborhood of Funchal.

4. Myosotis, Linna.

1. Myosotis capitata, Hook. f.

Myosotis capitata, Hook. f. Fl. Antarctic.  
1, p. 56, t. 37, & Fl. N. Zeal. 2, p. 200.

Hab. Lord Auckland Islands.



5. Eritrichium, Schrad.

1. Eritrichium linifolium, Nutt.

Anchusa linifolia, Lehm. Asperif. no.  
158.

A. oppositifolia, H. B. K. Nov. Gen. &  
Sp. 3, p. 91, t. 200.

Antiphytum linifolium & A. Wal-  
persii (Anchusa Kunthii, Walp.  
Rel. Meyer. p. 372), St. B. Prodr. 10,  
p. 121, 122.

Eritrichium linifolium & E. Walpersii,  
Nutt. Chlor. And. 2, p. 89, 90.

Stab. Andes of Peru above Baños;  
a slender-leaved form, the same as no.  
5309 of Spence's collection in the Andes  
further north, and apparently also Meyer's  
Plant from farther south. - Antiphytum  
heliotropioides, H. B. K. ~~as~~ Dr. Torrey was ~~shown~~ also  
referred to Eritrichium.

6. Cynoglossum, Tourn.

1. Cynoglossum latifolium, R. Br.

2. Cynoglossum australe, R. Br.

3. Cynoglossum suaveolens, R. Br.

Hab. New South Wales, in the vicinity of Sydney, &c.

In the specimen of C. latifolium, which is just beginning to flower, the leaves are all distinctly petioled, and mucronate or cuspitate,

rather than acuminate. ~~The~~ It is well characterized in the Flora of Tasmania. The specimens of the last two species

~~are~~ ~~are~~ accord with Brown's diagnoses and with Dr. Hooker's notes in the appendix to the Flora Tasmaniae, 2, p. 369.

7. Pectocarya, Sl.

1. Pectocarya lateriflora, Sl.

Hab. Peru, in the environs of  
Araucillo. A genus of one Chilean,  
one Peruvian and a Californian  
species.

8. Schleidenia, Endl.

1. Schleidenia



8. Steliotropium, Tourn.

1. Steliotropium curassavicum, Lin.

Hab. Rio Negro, North Patagonia. ~~Near~~ Lima, Peru. Coast of the Sandwich Islands. Now found upon almost all tropical and subtropical coasts; of American origin.

2. Steliotropium Europaeum, Lin.

Hab. Madeira; approaching the var. oblongifolium.

3. Steliotropium undulatum, Vahl.

Hab. St Jago, Cape de Verde Islands, near the var. ramosissimum, Lehm., a mere state of the species.

4. Heliotropium corymbosum, Ruiz & Pav.  
Hab. Peru, <sup>on the Amancaes mountain near</sup> ~~in the vicinity of~~ Lima.

5. Heliotropium Peruvianum, Linn.

Hab. Lower Andes of Peru, below Obrajillo; the common Sweet Heliotrope.

6. Heliotropium pilosum, Ruiz & Pav.

Hab. Peru, near Lima, on the Amancaes; the original station of Ruiz and Pavon.

The specimens are much more developed than that figured in the Flora Peruviana, 2, t. 110. They are from "a shrub, two or three feet high; flowers white." Leaves and branchlets both villous <sup>or hirsute</sup> with long and spreading, ~~somewhat bristly~~, and partly deciduous hairs, and also caescent with a soft and close pubescence, both kinds



apparently somewhat viscos. The leaves are ovate or elliptical, acute at both ends, ~~contracted~~ tapering into a petiole. Summit of the <sup>flowering</sup> branches or common peduncle mostly naked, slender, twice or thrice dichotomous. Spikes slender, ~~abscissate~~, from half an inch to two inches long. Bracts none. Flowers sessile, a line and a half long. Sepals broadly lanceolate, <sup>or ovate-lanceolate</sup>, equal or nearly so, villous-pubescent. Tube of the corolla about twice the length of the calyx, minutely pubescent externally, not bearded or pubescent within, the limb plaited. Stamens inserted on the base of the tube of the corolla: filaments very short; anthers elongated-linear, obtuse, the somewhat incurved tips so apex minutely bearded, ~~for~~ distinct. Style short ~~but~~ and narrow: stigma <sup>a</sup> disk ~~shaped~~ and surmounted by a



Slender, cylindraceous, emarginate, puberulent prolongation. Pericarp separating into 4, minutely and sparsely hispid pyrene, about the length of the incurved lobes of the calyx.

7. Heliotropium gracile, R. Br.

Hab. Luzon, near Manilla; - the H. gracile var. depressum, Cham., referred by DeCandolle to H. coromandelianum, but it seems distinct.

H. gracile <sup>lum. Lehm.</sup>  
8. Heliotropium (Schleidenia) polysperum =

Hab. Brazil, in the vicinity of Rio Janeiro.

9. Heliotropium (Heliophytum) <sup>florum. Linu.</sup> parviflorum =

Hab. Peru, near Lima. - To this species, as I suppose, belongs H.

synzostachium of Ruiz and Pavon  
may be referred.

10. Steliotropium (Steliophytum) persicariae  
folium, Sw.

Sw., Brazil, in the Organ Moun-  
tains near Rio Janeiro.

11. Steliotropium (Tiaridium) Indicum, <sup>Lin.</sup>

Sw., Rio Janeiro, and elsewhere;  
introduced, originally from Asia.

12. Steliotropium anomalous, <sup>V. Arn.</sup> Hook.

X. fruticosum, <sup>nunc procumbens,</sup> depressum, strigoso-  
incanum; foliis confertis linearis-  
lanceolatis basi attenuatis vel  
spathulatis; cymis pedunculatis  
glomerifloris; calycis lobis  
inequalibus imbricatis, 2 exteri-  
oribus ovatis saepe oblongis, ceteris  
linearibus; corollae tubo extus  
strigoso-sericeo calyce bis longi-  
ore; antheris apicibus bre-  
vissime barbulatis primum  
cohaerentibus; pyrenis nuc-  
lis 4 rarius 5-6 scabris.

Lithospermum incanum, Forst.

Prodr. p. 12; Cham. in Linnaea,  
4, p. 446.

Steliotropium ? anomalous, Hook. &  
Arn. Bot. Beech. Voy. p. 66.



Pentacarya heliotropioides, DC.  
Prodr. 9, p. 559.

Var. B. argenteum: pube molli-  
ore densiore nitente incan-  
um; floribus paullo majori-  
bis.

Hab. Bermont-Tonnere, Carls-  
prof. <sup>Karaka</sup> ~~Karaka~~, and nearly  
all the Coral Islands, Also on  
Matia of the Society Islands. Var.  
B. Coast of Oahu, Sandwich Island,  
where it was <sup>(likewise)</sup> ~~also~~ collected by Kunz,  
and where Gandichand gathered a  
specimen of the ordinary form of  
the species.

This is certainly Forsters Litho-  
spermum incanum, ~~and is, I doubt~~  
~~without doubt a Heliotropium~~ which  
specific name having long since  
been appropriated for a Peruvian

Heliotropium, that of Storker and  
Kroott must be adopted. The anomaly  
of five nucules to the fruit,  
however, which suggested the name  
and induced DeBardille to form  
a genus for this plant, is so  
far from constant that I have  
not been able to detect a single  
instance in full series of specimens  
before me, from nine or ten  
localities, although it may be in-  
ferred from Dr. Pickering's notes  
upon fresh specimens that he  
had ~~also remarked~~ seen 5-nu-  
cleate fruits. I have observed  
six nucules; but ~~the addition~~ of a  
supernumerary carpel is not so  
extraordinary. ~~The flowers throughout~~  
In all other essential respects the  
plant is a Heliotrope. Even the  
inequality of the sepals is not  
~~altogether~~ unexampled, although here



strongly marked. The cyme, at first nearly capitate is at length considerably evolute, and once or twice bifid, more or less scorpioid, often with numerous flowers expanded at the same time. Bracts none: the exterior sepal ~~largest~~ largest and as it were confluent with the shades, in the manner of a bract; the second sepals similar in shape, but a little smaller; the third and fourth <sup>of equal length</sup> linear or linear-lanceolate, but nearly as long as the others; the fifth still smaller and sometimes minute. Corolla 2 or 2 1/2 lines long, plaited, apparently white, hypocrateriform, with ~~a plaited~~ rather ample limb, within entirely glabrous. Stamens inserted below the middle of the tube. Anthers linear-lanceolate, with small incurved tips which are minutely



bearded under a lens, slightly  
cohering by these tips over the  
stigma. Ovary carinate; style  
short, bearing a narrow annu-  
lus <sup>(the true stigma?)</sup> above which is <sup>a</sup> the cylindra-  
~~portion, or prolongation, of the same diameter as the~~  
~~cent of proper stigma, the~~ style, its sum-  
mit penicillate.

In the variety from the Sand-  
wich Islands, the foliage is strik-  
ingly silvery-white, and the flowers  
rather larger (the corolla 3 lines long);  
no other difference appears.

Without much hesitation we may  
reduce to ~~the~~ the genus Heliotropium =  
pinum Nuttall's Euploea as well  
as Schleidenia, Endl. (Preslea, Mart.)  
and Pentacarya, DC., and, with the  
series, associate Tournefortia with  
this genus rather much more than  
with Chretia. But the plant  
which, in ~~Ann~~ Mem. Amer. Acad.  
n. ser. 6, p. 403, I had characterized

as Steliotropium Japonicum, so closely resembles and is ~~so related~~ ~~go~~ has such geographical relations with Amman's Arguria that ~~it~~ <sup>it</sup> doubtless has a similar drupaceous fruit, with bony, bilocellate pyrene; but the fruit is still unknown. Indeed it is not unlikely to be a variety of the Siberian and Mongolian species with a longer style and a glabrous ovary, these being the only notable dif distinctions.

9. Coldenia, Lin.

1. Coldenia (Fiquilia) dichotoma <sup>Lehm.</sup>

Hab. Peru, on the desert upland near Yanga.

10. Tournefortia, Linn.

1. Tournefortia (Mallota) argentea, Linn. X.

Thos of the  
Stat. Mangri, Sooloo, Freeje,  
Navigators', and all the Coral Is-  
lands.

2. Tournefortia elegans, Cham.

3. Tournefortia floribunda, HBK.

4. Tournefortia Salzmanni, Db.

5. Tournefortia lanceolata, Friesen.

6. Tournefortia salicifolia, Db.

7. Tournefortia glabra, Spreng.

Stat. Brazil, in the Organ Moun-  
tains, and in the vicinity of Rio Janeiro;  
all common species in that District.



8. Tournefortia virgata, Ruiz & Pav.

Hab. Andes of Peru, near Chajillo; a fragment only.

9. Tournefortia Wallichii, DC.

Hab. Singapore: the corollas fallen.

10. Tournefortia sarmentosa, Lam.

Hab. Luzon, in the vicinity of Manila.

11. Chretia, Linn.

1. Chretia brevifolia, Roxb.

Hab. Philippine Islands, both Luzon near Manila, and Mindanao, at Bal-dera, Sooloo Island. The C. heterophylla, Sprug.

12. Cordia, Plum.

1. Cordia glabra, Cham.
2. Cordia grandifolia, A. DC.
3. Cordia obscura, Cham.
4. Cordia cylindristachya, Koenig. Sch.
5. Cordia discolor, Cham.

Stat. Brazil, in the Organ Mountains or in the vicinity of Rio Janeiro.

- b. Cordia lantanoides, Spreng.

Stat. Peru, in the vicinity of Obrajillo. In fruit only.





4 Pav.

7. Cordia rotundifolia, Ruiz

Hab. Peru, near Yanga.  
Referred by Alphonse De Candolle to  
Narria; but in the specimens,  
as in the figure in the Flora Peru-  
viana, the calyx opens into persistent  
teeth and is not calyptrate, - not  
that the character is here of much  
consequence.

8. Cordia subcordata, Lam.

Hab. Tahiti, Society Islands,  
Coral Islands, Feejee Islands, &c.  
Gathered by Gaudichaud and Kery on  
the Sandwich Island, ~~where our mate-  
rialists appear not to have met  
with it.~~ (and mentioned by Dr.  
Pickering as "planted around the dwellings  
of natives; introduced by aboriginal settlers".

9. Cordia aspera, Forst.

C. pube ferruginea hirsuta,  
demum glabrescens; foliis mem-  
branaceis ovatis acuminatis  
asperulis supra glabratis, ser-  
ratifis subulatis; floribus par-  
vis cymoso-glomeratis; ~~sessilibus~~  
calyce ovato-cylindraceo fer-  
rugineo-villoso 10-striato, den-  
tibus 5 minimis subulatis;  
corollae tubo calycem vix su-  
perante lobis aestivatione  
inflexis et corrugatis longiore;  
drupa ovata <sup>acuta</sup> munda, putamine  
1-2-spermo. X

Cordia aspera, Forst. Prodr. Fl.

Mus. Austr. p. 18.

C. Sprengelii, Sum. in Bonplandia, 1841, p. 258,  
vix Spreng.

Hab. Tongatabu, Fuzie, Sa-  
moa, and on some of the Coral  
Islands.



A shrub, 10 or 15 feet high,  
with a rusty pubescence, which  
is soft rather than rough.  
Leaves alternate from  $3\frac{1}{2}$  to <sup>(10)</sup> inches  
long, tapering into a slender ac-  
umination, serrate with very slender  
teeth, long-petioled, the upper  
surface soon glabrous excepting  
some minute hairiness on the  
principal veins. Peduncles an inch  
or more in length, once or twice  
dichotomous. Flowers sessile, cor-  
rad, calyx barely 2 lines long, strong-  
ly striate, very ferrugineous-pubes-  
cent, the truncate border minutely  
5-toothed. Corolla apparently white,  
"rugose" from the strong corrugation  
of the small oblong lobes in as-  
tivation. <sup>glabrous.</sup> Stamens and style inclu-  
ded. Drupe small, 4 or 5 lines long,  
with a rather copious sarcocarp,  
and an acute <sup>(or pointed)</sup> bony putamen.



which is angulate, ~~tuberc~~ and  
often 1-2-tuberculate or spinose  
near the base, by abortion 1-2-  
celled.

This is a genuine Cordia, but  
not closely related to any other  
species with which I am ac-  
quainted. The specific name  
is unfortunate, as the leaves  
are by no means asperous.

James M. Smith  
1840

Ord.

Convolvulaceae,

1. Argyria, Lour., Night.

1. Argyria tiliifolia, Night.

Argyria tiliifolia, Night. Le. Pl.

Ind. Or. 4, p. 12. t. 1538; Miq. Fl. Ind.

Rivea tiliifolia, Chris. Conv. Or. p. 25,

\* in St. Prov. 9, p. 325.

Itab. Caldera, Mindanao,  
Philippine Islands.



## 2. Lepistemon, Blume.

### 1. Lepistemon flavesceus, Blume.

Stat. Luzon, Philippine Islands,  
near Manila.

Our plant, which is <sup>probably</sup> the same  
as Cuming's no. 1864, from the Philip-  
ines, I presume to be Blume's original  
species. It differs from the Indian plant  
(L. Wallichii, Choisy. ouv. Br. p. 61, t. 2, ~~p.~~  
n. 8, L. flavesceus, Night, Lc. t. 1362)  
barely in two, perhaps in constant par-  
ticulars, viz. in the denser inflorescence,  
which is almost capitate, and in the ~~less~~  
more or less bristly hairiness of the pistil,  
which in the Indian plant specimens  
examined, and as figured, is glabrous. There  
is no essential difference in the scales of  
the filaments, which Choisy describes as gla-  
brous, while his artist more correctly figures  
them otherwise.

23. Batatas, Rumph.

1. Batatas edulis, Chois.

Hab. Sandrich <sup>(Freeje)</sup> Islands, H.  
cultivated, and apparently also esca-  
ped from cultivation, as it is in Macrae's collection. There is  
also a specimen in the collection from  
Rio Janeiro.

2. Batatas pentaphylla, Chois.

Hab. St. Jago, Cape de Verde  
Islands; "in wild situations." Sand-  
wich Islands; along the base of the  
Kaala Mountains, Oahu, and on W.  
Maui. Enumerated by Dr. Pickering  
as if indigenous.

when it was also collected by Macrae.





Batatas acetosifolia, Chois. was collected by  
Kenny on Nihaun, one of the Sandwiche Islands.

4. Ipomoea, Linn.

1. Ipomoea (Calonyction) Bona-nox, Linn.

Stat. Feejee, Samoa, and Sand-  
wich Islands (Hawaii): the ordinary  
form of the species.

2. Ipomoea (Calonyction) longiflora, <sup>R. Br.</sup>

Ipomoea longiflora, R. Br. Prodr.  
p. 484, non ~~W.~~ Willd. & W. B. K.

Calonyction muticum, Decaisne, Herb.  
Timor, p. 62; Chois. in DC. Prodr.

C. longiflora, <sup>9, p. 345</sup> W. Willd., W. B. K.,  
in Boupl. 1861, p. 258.

C. longiflorum Hassk. Pl. Jav. Rav.  
p. 523.

Stat. Gardner's, Disappointment,  
Wak's, Kurick, and other Pacific

Coral Islands.

This is probably no more than a variety of the preceding species, with pointless sepals, and mostly shorter peduncles.

3. Sponcea (Pharbitis) insularis, Steud.

Pharbitis insularis, Chois. Conv. Cr.  
p. 57, & in DC. Prodr. 9, p. 341.

Convolvulus purpureus, Hook. & Arn.  
Bot. Beech. Voy. p. 90, non Linn.

Ital. Hawaii and Oahu, Sand-  
which Islands; both the silky-canescient  
and the smoother forms. Feejee Islands.  
Mr. Wright found it also at the Loo Choo  
Islands. Kemy gathered at Oahu  
what is seemingly the same species  
with lobed leaves.

4. Ipomoea (Pharbitis) pubescens, <sup>Lam.</sup>

Stat. Peru, in the vicinity of  
Obrizillo.

5. Ipomoea asarifolia, Roem. & Schult.

Stat. St. Jago, Cape de Verde  
Islands. Apparently includes Chrysip  
I. umbica and I. rugosa.

6. Ipomoea Pes-caprae, Sweet.

Stat. St. Jago, Cape de Verde Is-  
lands. Tahiti, Feejee Islands.  
Noted also from other Pacific islands  
and coasts.



7. *Sporaea peltata*, Chois.

<sup>(under)</sup> Itab. Tahiti, Society Islands; "the stem sometimes two inches in diameter; flowers white." Savaii, one of the Samoan Islands; "flowers corolla white, the margin yellow." Dr. Seemann found it in the Feejee Islands.

8. *Sporaea Turpethum*, R. Br.

Itab. Society and Feejee Islands; with angulate or even somewhat hastate leaves. Samoan and Feejee Islands, and coast of Hawaii, Sandrich Islands, with ample and broadly cordate leaves.

9. *Sporaea codonantha*, Benth.

*Sporaea codonantha*, Benth. P. C.

Sturtw. no. 675, p. 120, & Bot. Voy

Sulph. p. 135.

Itab. Mbra <sup>or sandalwood</sup> Bay, Freezie I-  
lands; "frequent in open ground and  
at a little distance from the coast."

Apparently distinct from the  
preceding, in the points indicated  
by Mr. Benham. Whatever it  
may prove to be the specimen  
wholly agrees with Hartweg's  
plant from Guayaquil. Perhaps  
it is Brown's I. alata.

10. Spongia Pes-tigridis, Linna.

Itab. Near Baños, Luzon, Philip-  
pine Islands. A common Indian  
species.

11. Spongia limifolia, Blume.

Itab. Caldera, Mindanao, Phil-  
ippine Islands. A mere fragment.

12, *Ipomoea crotonifolia*, Gardn.

*Ipomoea crotonifolia*, Gardn. in Hook.  
Lond. Jour. Bot. 1, p. 180.

Stat. Brazil, in the vicinity of Rio  
Janeiro.

This well-named species does not accord with the character of Choisy's *I. viridis*, to which it is doubtfully referred in the Prodrums. The peduncles are for the most part many-flowered, and the ferrugineous tomentum nearly uniform on both sides of the scarcely cordate leaves.

*Ipomoea dichotoma*, Choisy?

Stat. Brazil, in the vicinity of Rio Janeiro; a dubious fragment.



1. Iponoea Coptica, Roth.

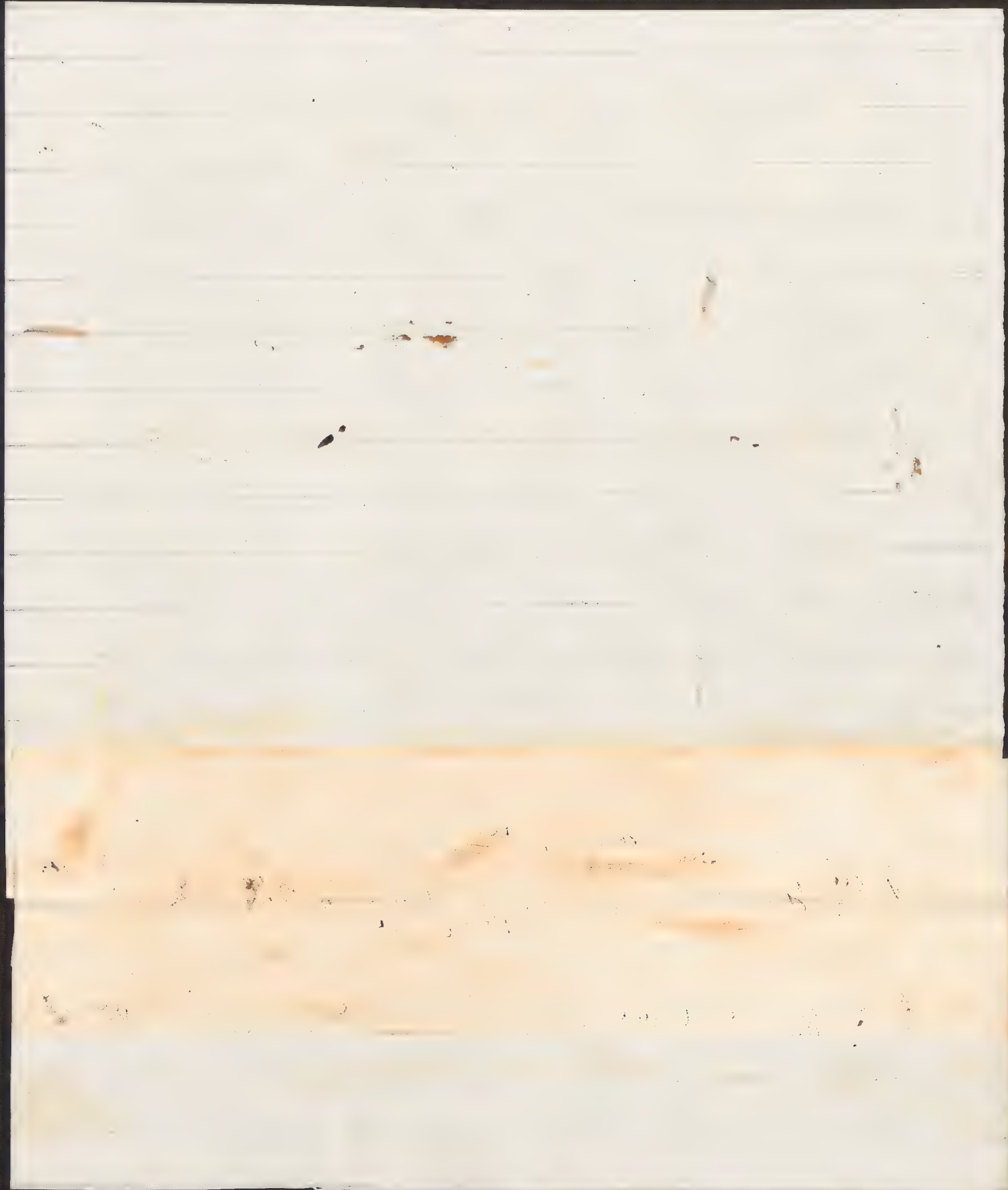
Stat. St. Jago, Cape de Verde Islands.

15. Iponoea tuberculata, Roem. & Sch.

Stat. Hawaii, Kani, H. Sand-  
wich Islands.

Stoker and Arnott, in Bot. Beech.  
Voy., enumerate both Convolvulus tuberculatus and C. Cairicus from the  
Sandwich Islands. We have only one  
species, and no ripe fruit for determining

whether the seeds are "silky-to-  
mentose" or "glabrous". Probably  
~~both~~ the two are not distinct,  
as Bentham suggests.



16. Ipomoea pendula, R. Br.

Hab. Wollongong, New South Wales;  
except in the deeper color of the flowers;  
This, again, <sup>the</sup> seems hardly different  
from the preceding, or for as can  
be told from dried specimens.

17. Ipomoea fastigiata, Sweet.

Hab. Feejee Islands; a specimen  
in fruit only, but apparently of this  
tropical American species, which has  
found its way to India and Polynesia.

18. Ipomoea gemella, Kth.

Hab. Luzon, Philippine Islands, in the  
vicinity of Manila.



17. Ipomoea Forsteri.

Y. volubilis, mox glabrata; foliis  
cordato-sagittatis mucronatis longe  
petiolatis; pedunculis 1-3-floris;  
pedicellis tetraquetris petiolum  
subaequantibus; sepalis ovalibus  
obtusis mucronatis vel aristu-  
latis; corolla rosea ~~vel purpurea~~  
~~sea~~ sesquipollicari; capsula et  
seminibus glabris.

Ipomoea carnea, Forst. Prodr.

Fl. Ins. Austr. p. 15, non

Jaeg.

Y. obscura, Guillem. Zeph. Tait.

p. 44, vix Koenig. & Schult.

Y. sepiana, Sem. in Bonpl. 1861, p. 258, vix  
Koenig.

Var.  $\beta$ . Itanaiensis; foliis elongato-  
sagittatis acuminatis, lobis parallelis  
approximatis; pedunculis elongatis

3-7- floris; corolla "alba" prol-  
licari.

Hab. Tahiti and Metia, Society  
Islands, Tongatabu, Feejee Islands.  
Var.  $\beta$ . Itilo, Hawaii, Sandwich  
Islands.

(Young) <sup>shoots and leaves</sup> ~~parts~~ more or less his-  
sute-pubescent; but the hairs mostly  
soon deciduous. Leaves  $1\frac{1}{2}$  to  $2\frac{1}{2}$  inches  
long, varying from roundish-cordate  
with a deep acute sinus to deltoid-  
sagittate, either blunt, acute, or cus-  
pidately acuminate, the basal lobes  
either rounded or with a short diver-  
gent acumination; petiole slender, ~~from~~  
~~an~~ an inch or an inch and a half  
long. Peduncle <sup>proper</sup> shorter than the  
petiole, but the pedicels often  
equalling them. Sepals fully 3  
lines long, of a chartaceous texture

Sperma obscura, Jacq.?

Sperma carnea, Thunb. No. 15,

non Jacq. obscura, Griseb. Zsch. Jait.

No. 44, on Fern. A Schult.?



in the dried specimens, broadly oval,  
very obtuse, tipped with a slender  
mucro or cusp. — This can be ~~black~~  
<sup>black, very smooth</sup> — This can hardly  
<sup>I cannot, with Willd. in fer</sup>  
~~be referred to~~ *J. obscura*. But if  
*J. reptans* ever grows in rather dry  
soil, ascends, and becomes voluble,  
~~this~~ it may include these forms,  
and especially the var. *Hawaiensis*.  
In the latter the leaves are  
very much like the narrower  
ones of *J. reptans* (commonly 3 inches  
long and 6 to 12 lines wide, tapering  
to a point, oblong- or lanceolate-sagittate), but the basal lobes are nar-  
rower and not at all diverging, but  
rather ~~convergent~~ approximate or con-  
nivent. Its peduncle attains the  
length of three inches, and bears  
an umbel of from 3 to 7 flowers.  
The campanulate-funneliform  
corolla is shorter than in *J. reptans*.

and is noted by Dr. Pickering as  
"white"; but the dried specimens  
show a tint of rose.

20. Ipomoea reptans. Poir.

Hab. Mangri, Feejee, and Sa-  
moan Islands, on the coast.

5. Jacquemontia, Chois.

1. Jacquemontia sandwicensis,

J. villosa-pubescentis, nunc glabrata,  
caulibus e radice tuberosa  
procumbentibus; foliis carnosu-  
lis obovatis cuneato-oblongisve  
emarginatis vel obcordatis mox  
glabratis breviter petiolatis; pe-  
diculis folium aequantibus 1-3-  
floris; sepalis 3 exterioribus ovatis  
obtusis herbaceis <sup>(multo minoribus)</sup> 2 interioribus  
oblongo-lanceolatis acumina-  
tis; corolla calyce duplo longi-  
ore.

Convolvulus ovalifolius, Hook.

J. Arn. Bot. Beech. Voy. p. 90,  
nunc Vahl.

Sponsea ovalifolia, Chois. Bour.



Gr. p. 67, & in Ob. Prodr. 9, p. 357,  
quoad pl. Sandw. & varr. pubes-  
ens & tomentosa.

Hab. Sandwich Islands; on the  
leeward portion of Oahu, Maui,  
and other islands. Oahu, Menzies,  
Macrae, Nuttall, Gandichand. Ka=  
moolawe, Kermag.

The root, as Dr. Pickering was  
informed, is tuberosus and edible.  
Stems slender, slightly if at all  
ligneous at the base, prostrate  
or decumbent, one or two feet long,  
either sparingly or densely villous-  
pubescent when young, often  
glabrate with age. Leaves an inch  
or less in length, moderately or deep-  
ly notched at the apex, often obcor-  
date, mostly acute at the base, gla-  
brate with age; petiole 2 to 5 lines

long, Peduncle up to the bract-  
lets equalling or rather shorter  
than the leaf; the bracts small,  
lanceolate, or sometimes larger  
and resembling the leaves on a  
small scale; ~~pedicel~~ one-flow-  
ered, or umbellately 2-3-flowered;  
the pedicels mostly shorter than the  
peduncle. Flowers small. Calyx  
3 lines long; the three broad outer  
sepals lax and somewhat ampliate  
after flowering, broadly ovate or  
oval; the two inner slightly shorter  
but very much narrower, acumi-  
nate, more scarious. Corolla  
campanulate, apparently white,  
4 or 5 lines long, glabrous. Stig-  
mas elongated-oblong, flattish.  
Capsule small, globose, 2-celled,  
4-seeded, dehiscent.

It would have been remarkable if this were  
~~identical~~ the same as the East Indian and West  
African species with which it was confounded. I have  
not seen the latter plant, but ours does not accord with the  
character of it, and it has the stigma of *Lacquemantia*.



2. Jacquemontia Martii, Chois.?

Stat. Brazil, near Rio Janeiro,  
"Flowers blue."

This, which is probably a common species at Rio, does not wholly accord with ~~any~~ the characters of any one of Choisy's species. It is one of those with perfectly smooth sepals, of a chartaceous texture in the dried state; and these in the present plant are intermediate in shape ~~between~~ between those of J. Martii and J. Blanchetii, var. major. The genus species need revision. The plant figured as J. Canescens in the Botanical Register, with very obtuse, equal, and smooth sepals, cannot be Humboldt's species; it is probably Choisy's J. velutina.



6. Convolvulus, Lin.

1. Convolvulus erubescens, Sims.

Stat. Hunter's River, New South Wales. — To this perhaps the next, with various synonyms, may be referred.

2. Convolvulus Borrariensis, Car.

Stat. Chili, in the vicinity of Valparaiso.

3. Convolvulus Hermanica, L'Hér.

Stat. Callao, Peru. — A variable species, diffused from Texas to Chili and Buenos Ayres, &c.

C. arvensis, Lin., was picked up in Madeira.



7. Aniseia, Chois.

1. Aniseia uniflora, Chois.

Hab. "Tongatabu," ~~A single~~  
~~fruiting specimen~~ according to the  
ticket, but it evidently the plant  
noted by Dr. Pickering (Distrib. p. 359)  
as from "Nalua, Feejee Island".

It is a wide-spread "Afr-Indian"  
species, and was collected at the Feejies  
by Prof. Harvey, and by Dr. Seemann.

8. Calystegia, K. Br.

1. Calystegia Soldanella, K. Br.

Hab. New Zealand, at the Bay of  
Islands. Moolongong, New South  
Wales.



2. Calystegia sepium, N. Br.  
Tab. Bay of Islands, New Zealand.  
and.

4. Stewittia, Night.

1. Stewittia bicolor, Night.

Stewittia bicolor, Night in Madr.

Jour. 1837, & Le. Ind. Or. 3, t. 835.

Shuteria bicolor, Chois. Conn. Or.  
p. 103, & Ob. Prodr. 9, p. 435.

Tab. Luzon, Philippine Is-  
lands, near Manilla.

10. Bonamia, Pet. - Thouars.

1. Bonamia Menziesii, Sp. Av.

B. caule lignoso decumbente;  
ramis volubilibus, junioribus  
herbaceis cum foliis ellipticis  
utrinque obtusis vel retusis  
(supra max glabris) aurato-  
tomentulosis; pedunculis axillari-  
bus unifloris recurvis, fructifer-  
is deflexis; sepalis rotundatis  
coriaceis sericeis; stylis basi con-  
natis; capsula ovoida coriacea  
<sup>evalvi</sup>~~ex~~ dehiscente valvata; semini-  
bus baccatis.

Var.  $\beta$ . foliis oblongis seu ovato-  
lanceolatis acutis vel acumin-  
ulatis.

Convolvulus ovalifolius, var. ? Hbk. & Arn. Bot.  
Beck. Voy. p. 90.

Sponia ovalifolia v. tomentosa, Chrys. in Ab. Bot.  
9, p. 327.

Stat. Sandrich Island (where  
it was discovered by Menzies); on the  
southern base of the Kaala Moun-  
tains. Var.  $\beta$ . Mani, Perry, no.  
420.

This ~~plant~~, which I presume to be  
the plant mentioned by Stoker and Br-  
unt from the collection of Menzies, occurs  
in the present collection with abundant  
ripe fruit and a few flower-buds.  
A form of it with acute leaves supplied  
to me from Perry's collection has  
~~also~~ dropped the corollas from the later  
flowers, but a few retain their styles.  
According to Dr. Pickering the decidedly  
woody base of the stem is tortuous and  
decumbent; the branchlets are slender  
and ~~twining~~ <sup>twining</sup>. All the younger parts  
are clothed with a fine and close,  
yellowish, silky tomentum. Leaves





Vestiges of the dissepiment, which is wanting in the centre, dry and coriaceous or cartilaginous, apparently not dehiscient by valves, but bursting irregularly under pressure. Seeds 4 or 2, with a baccate-fleshy, arillus-like, <sup>purple or crimson</sup> epispERM, covering a hard seed-coat. Embryo 4, as in Sprucea.

If Mr. Brown (in Proc. p. 487) has rightly stated the difference between Borania of Thomas and his Breweria the two genera cannot properly be maintained; and the older genus of Thomas ~~may~~ must include Stylisma, Raf. as well as Breweria. Traces of the fleshy epispERM, which is so striking in B. Menziesii, are manifest in B. Roxburghii and in B. (Stylisma) humistrata.

crowded,  
[1½ to 2½ inches long, 9 to 16 lines  
wide, becoming glabrate above,  
somewhat coriaceous, indistinctly  
veiny, entire; petiole 4 to 9 lines  
long. Peduncles axillary, about the  
length of the petioles, or in fruit longer,  
articulated near the base, one-flow-  
ered. Sepals nearly equal,  
ovate-rotund, obtuse, about 4 lines  
long, little ampliate in fruit.  
Corolla externally silky, ~~pubescent~~  
~~externally~~, campanulate and barely  
twice the length of the calyx.  
Stamens included. Ovary 2-celled;  
the cells each with two ovules.  
Styles 2, separate almost to the  
base, slenderly filiform, about 8  
lines long, each surmounted with  
a capitate stigma. Capsule fully  
half an inch long, ovoid, glabrous,  
~~coriaceous~~, cuspidate with the united  
bases of the style, one-celled, having



11. Cressa, Linna.

1. Cressa Britica, Linna.

Hab. Rio Negro, North Patagonia.  
Peru, at Callao. Oahu, Sandwich  
Islands, - where Dr. Pickering regards it as  
an introduced plant. ~~All the spec~~ All  
belong to the var. Truxillensis (= C. Trux-  
illensis, HBK.), which likewise abounds  
on the coast of the southern part of Cali-  
fornia, and of the Gulf of Mexico.

12. Evolvulus, Linna.

1. Evolvulus latifolius, Ker.

2. Evolvulus nummularius, Linna.

Hab. Brazil, in the vicinity of  
Rio Janeiro.

3. Evolvulus villosus, Ruiz & Pav.

Hab. Peru, around Callao.

4. Evolvulus alsinoides, Linn.

Hab. Cape de Verde Islands. Muthu-  
ata, Feejee Islands. - A widely disper-  
sed species, which includes E. lini-  
folius, Linn., and several others of  
the books.

13. Dichondra, Forst.

1. Dichondra repens, Forst.

Hab. Brazil, in the Organ  
Mountains, and Peru below Obrajil-  
lo, - the var. sericea. Chili at  
Valparaiso, New Zealand, New South

Wales at Sydney, and on Hunter's River, the latter the var. sericea.

2. Dichondra argentea, Willd.

Ital. Peru, near Obajillo. — Accords with Mexican specimens, gathered by Coulter, Gugg, &c.; but the pubescence not so close-pressed and silvery as in Wright's no. 507 from N. Texas.

14. Buscuta, Tournef.

1. Buscuta racemosa, Mart. var. <sup>Engelm.</sup> Brasiliana,  
x

Buscuta racemosa, Mart. Itin. 1. p. 285;  
Chois. Buscut. p. 181, t. 3, f. 1, & in  
Ob. Poir. 9, p. 456.

B. racemosa, var. Brasiliana, Engelm.  
sp. Buscut. in Trans. Acad. Sci.



H. Loris, 1, p. 505.

Stat. Brazil, near Rio Janeiro;  
with flowers scarcely developed.

2. Buscuta Chilensis. Ker.

Buscuta Chilensis, Ker. Bot. Mag. t. 603;  
Chois. l. c.; Engelm. l. c. p. 468.

Stat. Chili, in the vicinity of  
Valparaiso.

3. Buscuta corymbosa, Ruiz & Pav. var.  
grandiflora, Engelm.

Buscuta Popayanensis, H. B. K. Nov.  
Gen. Sp. 3, p. 123; Chois. l. c.  
B. cymosa, Willd. Rel. in Roem. &  
Schult. Syst. 6, p. 205.

C. conglobosa (Ruiz & Pav. Fl. Per.  
1, p. 69, t. 105), var. grandiflora,  
Engelm. Sp. Buscut. l. c. p. 483.

Stat. Peru (where it was collected  
by Donkey, &c.) in the environs of  
Obrajillo.

4. Buscuta Sandwichiana, Chois.

Buscuta Sandwichiana, Chois. Bus-  
cut. p. 184, t. 5, f. 4; Engelm. l. c.  
p. 497.

Stat. Oahu and Maui, Sand-  
wich Islands, near the coast. - A  
well-marked species, entirely destitute  
of staminal scales.

Ord. Polemoniaceae.

The only plants of this order  
found in the <sup>Collection</sup> are  
<sup>and *Ceanothus* *buxifolia*, Lam., both</sup>  
Collomia gracilis, Dcgl., from  
Baños, in the Andes of Peru.

Ord. Hydrophyllaceae.

1. Nama, Linn.

1. Nama Sandericensis, Sp. Nov.

N. diffuso-ramosissima, <sup>(*minutula*)</sup> pube molli  
cinerea; foliis spatulatis deorsum  
attenuatis subsessilibus marginibus  
revolutis; pedunculis terminalibus  
demumque lateralibus solitariis  
vel bifurcatis calyce fructifero



longioribus patentibus; sepalis  
corolla campanulata subdimi-  
dio brevioribus capsula ovali  
paullo longioribus.

Hab. Sandwich Islands; on the  
Sandhills of the low isthmus of  
Mani. Also collected by Macrae,  
Nuttall, and Kuny on Oahu, and  
by Nuttall on Mani.

Root annual, as in most if  
not all of the genus, <sup>the base of the stem</sup> but sometimes  
becoming lignescient and appearing  
as if perennial. Stem branching  
from near the base, and becoming  
very diffuse, the branchlets divergent.  
Leaves 4 to 6 lines long including the  
~~base~~ attenuated base, scarcely veined,  
clothed (as <sup>are</sup> the calyx branches, &c.)  
with a soft and short but some-  
what hispid, ~~sub~~ more or less

hoary pubescence. Flowers small. Sepals linear, ~~moderately~~ <sup>slightly</sup> dilated at the summit, at least in front, when they become  $2\frac{1}{2}$  lines long. Corolla "delicate purple", 2 to  $2\frac{1}{2}$  lines long. Capsule 2 lines long. Peduncles becoming lateral by ~~axial~~ <sup>terminal</sup> growth, seldom axillary, about 3 lines long when fully developed, either single or <sup>more</sup> commonly geminate, the <sup>naked</sup> peduncle forking from near ~~the~~ its base. Seeds oval, minutely scrobiculate, as in the genus.

This species most resembles N. dichotoma; but the ramification, peduncles, &c. are quite different. A revision of the species known to me is given in

2. Wigandia, HBK.

1. Wigandia uvens. HBK.? Chois.

Hab. Peru, from near Lima to the Andes.

3. Phacelia, Juss.

1. Phacelia circinata, Jacq.

Hab. Chili and Peru, from the coast to the <sup>high</sup> Andes; in latitude ranging from Oregon to ~~Arac-~~  
~~cania~~ the Straits of Magellan.

Hydrolea spinosa, Linn. was of course met with at various stations; a fragment preserved in the collection bears no record of the locality.



Estelle Hayden, Cambridge



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11

Apprentice



1

Ord. Apocynaceae.

The following well-known species, not requiring any remarks, need only be enumerated: -

Carissa spinarum, Linn., from Luzon near Manila.

Carissa grandiflora, a native of Port Natal, gathered in Baron Ludwig's garden at Cape Town.

Hunteria? coriacea, of Wallich's catalogue, foliage only, from Singapore.

Malouetia Jamaquarina, A. DC., from the vicinity of Rio Janeiro, Brazil.

Thysanthus embelioides, A. DC., from Rio Janeiro.

~~Lycasia straminea, R. Br., Sydney, &c. New South Wales.~~

Horsteronia multinervia, A. DC., from the vicinity of Rio Janeiro.

Dipladenia atrovirens, A. DC., from the same district.

Echites microphylla, Stadelm. (E. formis, Vell. ?); E. peltata, Vell.; and E. lasiocarpa, var. angustifolia, Stadelm.; all from Brazil, in the neighborhood of Rio Janeiro.

The singular Lepine a Taitensis, of Decaisne, from the mountains of Tahiti, was not met with by our naturalists.

# 1. Alyxia, Banks, R. Br.

Brown superseded the earlier-published name of Gynoprogon, Forster, because the character was not good, and the name a false one, few of the species having a truly bearded stigma. It might be said that the name Alyxia is equally objectionable, the moniform fruit being less common than the simple drupe.

1. Alyxia stellata, Röm. & Schult.

Synapogon stellatum, Forst. Char.

Gen. n. 36, t. 18, & Prodr. p. 19;

Labill. Ser. Austr. Baled. t. 34,

Alyxia stellata, Röm. & Schult. Syst.

4, p. 439; Guillen. Zeph. Tail. p.

47 (cum descr. Forst.); Blume, Bijdr.

p. 1031; A. Cunn. in Bot. Mag. 1834,

n. 3313; A. DC. Prodr. 8, p. 346.

(and Manna, Friendly Islands, <sup>Islands</sup> ~~Saporoan~~)

Hab. Tongatapu, ~~Manna~~ ~~Tavi-~~

~~gator~~ ~~Islands~~ Ovolan, Muthu-

at a, H. Feejee Islands, <sup>Mountains of Fajiti?</sup> Cimeo,

Society Islands.

The leaves vary from elliptical to broadly oval on the one hand and to lanceolate on the other, and from one to  $2\frac{1}{2}$  inches in length; they are always subsessile or very short-petioled. Calyx and short pedicels cleftedate. Tube of the corolla only  $1\frac{1}{2}$  or 2 lines long. Ovaries glabrous, but surrounded by a villous ring. The pilose stigma at first globular, becoming oblong with age. Drupe short-oval, 4 or 5 lines long, the stipe more than twice the length of the calyx.



Schult.

2. Alyxia scandens, Kœm. & )Gynopogon scandens, Hort. Prodr.  
l.c.; Spreng. Pug. Pl. 1, p. 24Alyxia scandens, Kœm. Schult. l.c.;  
Millen, l.c. (cum descr. Hort.);  
A. D. C. l.c. p. 348.Stat. Mountains of Tahiti, Society  
Islands. In fruit.Stat. Mountains of Tahiti and  
Pimeo, Society Islands. ~~Fruit~~

Leaves larger than in the last  
and distinctly petioled. Pedicels  
and calyx chartaceous, either glabrous  
or pubescent. Flowers sometimes te-  
tramerous and much like those of  
A. stellata, commonly pentamerous,  
and with a larger corolla. Ovaries  
either silky-pubescent, or surrounded  
by a ring of silky hairs. Drupes  
short-ovoid half an inch in dia-  
meter, the stipe not twice the  
length of the calyx. Albumen  
not longitudinally pulcate.

Rich. in herb.

3. Alyxia bracteolosa, sp. nov.

A. subscandens, glaberrima; foliis  
~~oppositis~~ <sup>vel</sup> plerumque ternis  
 oblongis <sup>vel</sup> sublan- ~~cedatis~~ <sup>ceatis</sup> nunc  
 obtusis nunc acumine obtuso  
 apiculatis caudatisve basi acu-  
 tis <sup>vel rotundatis</sup> supra nitidis crebre trans-  
 versim lineatis sublonge petiol-  
 atis; cymis axillaribus pluri-  
 floris brevissime pedunculatis  
 petiolum vix superantibus;  
 pedicellis brevibus arcte imbri-  
 cato-bracteolatis; bracteolis ovato-  
 triangularibus dorso carinatis  
 intus concavis ciliolatis sepalis  
 consimilibus; corolla lutea lon-  
 gius tubulosa; stigmatibus imbricatis;  
 ovario glaberrimo; drupis sub-  
 globosis breviter stipitatis.





Var.  $\beta$ . macrocarpa: fructu oli-  
va formi <sup>maximo</sup> sesqui pollicari 2-3-  
spermo? (e drupellis 2-3 confla-  
tis).

Alyxia macrocarpa, Rich in  
hurb.

Alte scandens;

Var.  $\gamma$ . angustifolia: foliis mi-  
noribus angustioribus etiam  
sublinearibus.

Alyxia stellata, Bern. in Burpl. 1861, p. 257.

Var.  $\delta$ . parvifolia: foliis minori-  
bus ellipticis (sesqui- bi polli-  
caribus); pedimentis pauciflo-  
ris <sup>nunc elongatis,</sup> ~~fructiferis~~ petiolis <sup>longiori</sup> bis  
~~superantibus~~.

Stat. Tutuila, Manua, & Navi-  
gators' Islands. Tugatabu, Ovale,  
Feeje Islands. Var.  $\beta$ . Feeje  
Islands; in fruit. Var.  $\gamma$ . Tugatabu  
and Feeje Islands; in fruit. Var.  $\gamma$ .  
Muthuata, Feeje Islands.

quastioribus, ~~nunc~~ lineari-oblan-  
ceolatis; ~~practitis~~ minoribus.

Itab. Tulwila, Mariana, ~~Is.~~  
Is., Samoa Islands, Tongatabu.  
Ovolau, Feejee Islands. Var. B.  
Tongatabu.

This is said to be more or less  
scandent. It is glabrous through-  
out, excepting the ciliation of the  
bractlets and ~~divisions of the~~  
~~sepal~~<sup>calyx</sup> ~~calyx~~. The leaves are commonly  
in threes, occasionally in fours, or  
~~on some~~ <sup>times</sup> ~~branches~~ merely opposite.  
In texture and venation they  
resemble those of A. scandens; but  
they are usually larger, from 2  
to five inches in length, and 12  
to 18 lines wide, most commonly  
elongated-oblong, with <sup>usually</sup> acute or  
sometimes <sup>obtusely</sup> ~~tapering~~ <sup>or rounded</sup> base, and a  
rounded, obtusely short-pointed, or  
<sup>else</sup> ~~sometimes~~ more conspicuously acu-

minate, but blunt apex; petiole usually half an inch long. The flowers are in small, <sup>axillary</sup> ~~terminal~~, and very short-peduncled, ~~or~~ contracted cymes. The peduncles are naked, but their divisions and the short pedicels (2 to 4 lines long) are completely imbricated with pairs of small and thickish, triangular-ovate and obtuse, appressed bractlets, which are strongly carinate on the back. The exterior sepals resemble these bractlets; the inner ones are thinner and less carinate. Corolla "dirty yellow"; the slender tube half an inch long, enlarged at the throat (but less so than in *Gandichand's* figure of *A. laurina*), and constricted at the orifice; the lobes ovate, acute, a line and a half long. Stamens inserted in the throat; anthers cordate-lanceolate. Style filiform, long and slender; stigma rather small, capitate, beardless. Ovaries glabrous; the



very short disk on which they  
rest also perfectly glabrous, or  
with a few small hairs. Drupes  
simple, very rarely moniliform-  
geminate, <sup>toroid or</sup> globose, half an  
inch or more in diameter; the <sup>when dry somewhat ribbed with longitudinal</sup> stipe  
only about a line long, or rarely longer.  
Albumen, &c. as in the genus.

The variety macrocarpa, of which there is only a fruiting specimen, is remarkable for its large, turgid, olive-shaped but somewhat curved fruit, fully an inch and a half long and two thirds of an inch broad in the dried state, as if, instead of a two-pointed or three-pointed fruit, ~~the~~ as many fertile portions had run together. The foliage and bractlets accord with the ordinary form of the species. -- The variety angustifolia has rather smaller fruits than the typical form, as well as narrower leaves; the latter 2 or 2 1/2 inches long and 5 to 8 lines wide. It is said to climb tall trees. --

The variety pavifolia is an extreme form, smaller in all its parts, with elliptical leaves, the fruiting pedicels <sup>under</sup> half an inch or an inch long, and apparently few-flowered.

This species is so widely diffused throughout the South Sea Islands that it must have been met with before. It may have been confounded with A. Scandens or with Sandichand's A. laurina. The bracteolated pedicels at once distinguish it from the former, and also from the latter, in which, however, the calyx is bracteolate and the pedicels very short hardly any. Judging from Sandichand's plate (for I have not seen the species) the <sup>primary</sup> sessile leaves, terminal and few-flowered peduncles, the smaller corolla more inflated at the summit of the tube, and the pubescent ovaries, all indicate a species very distinct from the present, remarkable one.

4. Alyxia oliviformis, Gand.

A. scandens, glaberrima; foliis  
 oppositis <sup>tenui-coriaceis</sup> ~~variusve~~ <sup>vel</sup> ~~ternis~~ ovatis  
 ovalibus, oblongis basi ~~rotunda-~~  
 tis quandoque obovatis basi  
 attenuatis breviter petiolatis;  
 pedunculis axillaribus 3-5-floris  
 folio dimidio brevioribus; pedicellis  
 nudis; floribus <sup>(an semper?)</sup> tetrameris; Cor=  
 olla tubo clavato calyce trip=  
 lo longioribus; ovario glaber=  
 rimis; ~~stilo fere nudo~~ stig=  
 mate fere imberbi; drupis  
 olivæformibus; stipite calycem  
 bis terve superante; albumine  
 longitudinaliter leviter sulcato.

Alyxia oliviformis, Gandich.

Mt. Voy. Freyc. p. 451; Walp.  
 Kel. Meyen. p. 361; A. DC. l.c.

A. sulcata, Hook. & Arn. Bot. Beech.  
 Voy. p. 90; DC. l.c.



Var. *β. myrtillofolia*: foliis rigidioribus parvis ellipticis anguste oblongis linearis-ellipticis seu lanceolatis; floribus pentameris; drupis minoribus. Pedicellis pubentibus;

Hab. Sandwich Islands; mountains of Oahu; found by all collectors. Also found on Kauai by Remy. Var. *β.* Sea coast of the District of Wai-nap; and mountains near Honolulu.

This is both Gandichand's *A. olivacea* formis, and Hooker and Arnott's *A. sulcata*. The surface of the albumen is lightly and regularly grooved lengthwise, as in no other species I have examined. But these grooves appear on the fruit only when the pericarp was thin and shrinks upon the seed in drying, as Endlicher suspected. So that this peculiarity was naturally overlooked by Gandichand. As to the leaves, they are variable enough, smaller and proportionally broader than in *A. scandens*, and less shining above. In some forms, like the flowers, they rather more resemble *A. stellata*. They are both opposite and

ternate upon the same plant, from one to two inches in length, commonly ovate and oblong-ovate with a rounded base and a more or less obtuse apex, or obtusely pointed apex, but not rarely inclined to ovate and narrowed into the short petiole; the latter only  $1\frac{1}{2}$  to 2 lines long. Peduncles 3 to 6 lines long, slender, 3-flowered, sometimes 5-flowered; pedicels about 3 lines long, bracteolate. Flowers tetramerous in all the specimens examined. Sepals ovate, oblongish, barely a line long. Corolla yellowish, 3 lines long; the tube clavate; the orifice constricted; lobes ovate obtuse. Ovaries perfectly glabrous and with no pubescence around their base. Stigma capitate and ~~the~~ <sup>slightly</sup> tipped with a double, pubescent cusp, which soon disappears. Drupes oval

or ~~oval~~ oblong, from one-third to two-thirds of an inch in length, usually mucronate, raised on a stipe of 2 or 3 lines in length, two often developed, and one or both of them ~~not~~ occasionally double or moniliform. Some specimens gathered by Kemy, K., with smaller and narrower leaves than usual, effect a transition into the

Var. myrtillifolia; a singular form which would be taken for a distinct species. Its leaves vary, on the same specimen, from elliptical and only half an inch in length, to elliptical-linear and an inch long by 3 lines in width. On another specimen they are lanceolate or linear-lanceolate and from  $1\frac{1}{2}$  to nearly 2 inches in length. The flowers examined are pentamerous; the drupes from 4 to 6 lines in length and oval. They have the longitudinally sulcate albumen which distinguishes A. oliviformis.



2. Kauwolfia, Plum.

1. Kauwolfia Sandwicensis, A. DC.

Hab. Sandwich Islands; on the mountains behind Honolulu, Oahu.

The plant differs slightly from Seemüller's generic character in having a long and filiform style. And the stigma is subtended by an indusiate ring. The ovaries are distinct nearly to the base, each about 4-ovulate. But the ~~obovate~~ drupes are united to the middle, the upper part or lobes divergent. Pericarpeum osseous, very thick. Hypogynous disk thin, saucer-shaped, with the margin entire,



### 3, Berbera, Lin.

#### 1. Berbera Odollam, Gertn.

Hab. Tahiti, Society Islands: "a cultivated tree." ~~Tutuila~~, Samoan Islands.

This must be Foster's and Guillenini's C. Manghas. It is the only species noticed at Tahiti, and that only as a planted tree. 20 feet high, with large white flowers. At the Samoan Islands the same species grows on the coast, and is noted as perhaps introduced. It is said to bear a large, red, ovoid-compressed fruit. It is noted as fruit with at the Feejee and Tonga Islands also: but the specimens preserved all belong to the next.

#### 2. Berbera lactaria, Hamilton.

Hab. Feejee Islands: common, both along the coast and in the interior. Also Tongatabu, (Collected likewise by Dr. Seemann, no. 309.)

# 4. Ochrosia, Juss.

## 1. Ochrosia parviflora, Hensl.

Cerbera parviflora, Forst. Prodr. p. 19,  
non ~~Forst.~~ ~~Forst.~~

Ochrosia parviflora, Hensl. Fl. Keel,  
in Ann. Nat. Hist. 1, p. 345;  
A. DC. Prodr. 8, p. 357, ~~non Hook.~~

O. elliptica, Sem. in Boupl. 1861, p. 257; an Labiata?

Stat. Tongatabu, (Also Varan,  
Harvey.) Sonu-Sonu, Fiji Islands

To Professor Henslow's account  
of this species, I have only to add  
that the ovaries are not really  
united except at their apices, and  
that the ~~six~~ ovules are as many as  
eight in the flowers examined, four  
on each margin of the suture; they  
are antherous; the micropyle ~~I~~  
~~believe~~ superior. <sup>is longer & whitish long.</sup> The specimens show  
some half-grown fruit, which consists  
of a pair of ovoid fleshy or drupaceous  
carpels, the larger an inch long.

Ochrosia sandwicensis, A. DC. (O. par

*Cerbera parviflora*, Hook. & Arn. (non  
 Forst.) appears not to have been  
 met with; but there are good spe-  
 cimens in Kerm's ~~Hawaii~~ Collec-  
 tion from Hawaii. The fully-grown  
 flower buds are almost an inch in  
 length; the narrow lobes rather longer  
 than the tube; the latter glabrous  
 within. Ovules 3 or 4 in each ovary.  
 Seeds peltate, one <sup>(attached to</sup> ~~upon~~ each  
 face of the thin, nearly complete  
 false partition, <sup>scaberrimus?</sup> the radicle  
 inferior!



5. Peschiera, A. DC.

1. Peschiera nystrix, A. DC.

Stat. Organ Mountains, near Rio Janeiro, Brazil. A variety with the leaves more distinctly petioled than in the figure of Vil-  
lori.

6. Taberna montana, Plum.

1. Taberna montana coronaria, R. Br.

Taberna montana coronaria, R. Br. in  
Art. Kew. ed. 2. 2. p. 72; Lodd.  
Bot. Cab. t. 406; Wright, Lc. Pl.  
Ind. Or. t. 477.

Var. B. brachycarpa: fructibus ovatis  
oblongisve turgidis glaberrimis;  
calyce profundius fisso.

Taberna montana citrifolia, Forst.  
Prodr. p. 20, non Linn.; foliis  
latis ovatis oblongisve.

T. bumingiana, A. DC. Prodr. 8. p.  
373; foliis angustioribus ellip-  
tico-lanceolatis seu lanceola-  
tis.

T. villosa, Bern. in Boupl. 1861, p. 257.

Stat. Tongatabu, Heeze Is-  
lands, common on the leeward coasts  
(both the broad and the narrow-leaved  
forms). Luzon, near Manila.

I scarcely doubt that these  
are all forms of T. coronaria; but  
the turgid, ovate or semi-ovate capsules  
are only an inch or less in length. They  
are said to be yellow when fresh, the seeds  
(which are exactly those of T. coronaria) enveloped  
in red pulp. The largest leaves are 6  
inches long and 3 inches wide; those of the  
small form 2 to 4 inches long, and from 8 to  
16 lines wide.

19  
2. Tabernaemontana? Lavis, Vell.

Tabernaemontana Lavis, Vell. Fl. Flum.  
3, t. 18; Ob. l. c. p. 375, inter Dubias.

Stat. Rio Janeiro, Brazil.

The specimen bears immature fruit only, so that the genus is indeterminate. But the leaves are alternate; they are not so ~~much~~ much ~~alternate~~ lanceolate as oblong and acuminate at both ends, rarely above two inches in length, <sup>bright</sup> smooth and of the same green hue on both sides. The fleshy follicles and <sup>the</sup> seed <sup>resemble</sup> ~~appear to be~~ those of a Tabernaemontana.

# 7. Parsonsia, R. Br.

## 1. Parsonsia heterophylla, A. Cunn. ~~capitulata~~

Stat. Bay of Islands and Waiapu Bay, New Zealand.

As the principal fruiting specimens are broad-leaved, and the only flowering one has the tube of the corolla much longer than the calyx, they must be referred to P. heterophylla of Cunningham and of Hooker (P. albiflora of Rauh), which is Persea plocia capitulata of Forster in part. A sterile specimen may well resemble Rauh's figure of P. rosea; but, from the corolla Dr. Hooker refers this <sup>also</sup> to P. heterophylla.

and the Parsonsia capitulata of Delessert's Lecons.



21  
8 Lyonsia, R. Br.

1. Lyonsia straminea, R. Br.

Hab. New South Wales, at Hunter's River and near Sydney.

The corolla is essentially, but not absolutely valvate in aestivation, the margin to the right of the observer <sup>very</sup> slightly overlapping the other.

2. Lyonsia <sup>lavis</sup> glabra } sp. Nov.

L. glabra; foliis ovatis subcordatis acutato-acuminatis; calycis lobis triangularibus acutis brevibus; corolla fere glabra lance tantum annulatione barbata; squamis nectarii discretis glaberrimis ovarium subaequantibus; capsula cylindrica leviter bisulcata,



Hab. Grolan, Feejee Islands.

A woody, twining plant, glabrous, except a very minute and rusty puberulence on the inflorescence and young petioles. Leaves membranaceous, ovate or oblong-ovate, with a subcordate or rounded base and usually an acute or cuspidate acuminations, veiny, the veinlets conspicuous underneath. The larger leaves 6 inches long and 3 inches wide; petiole less than an inch in length. Inflorescence as in L. Scabra, DC.; the flowers apparently smaller; ~~and~~ the calyx shorter, glabrous, its lobes broadly triangular and acute, thick, nearly equalling the very short tube of the corolla. The small glands in their axils arose or lacinate. Corolla <sup>purplish</sup> glabrous, or very minutely and sparsely puberulent under <sup>a</sup> lens; the short tube moderately ventricose, about one third of the length of the oblong-



lanceolate lobes; these are thick, glabrous within, and subvalvate in aestivation, one ~~edge~~ <sup>margin</sup>, however, narrowly bevelled and overlapping, just as in L. straminea, but more evidently so; the tube is moderately bearded only at the orifice. (They are straight and equilateral, not at all contorted:)

Filaments inserted a little above the base of the corolla, subulate-filiform, as long as the anther, straight, pilose towards the base; anthers linear-lanceolate, retuse at the apex, sagittate at the base, the lobes somewhat incurved; they equal the corolla in length, and are connivent and ~~under~~ coherent with the stigma, which, with the style, resembles that of L. scabra.

Glands or lobes of the nectary oblong <sup>thickish</sup> ~~very~~ obtuse, entirely distinct, glabrous, nearly as long as the glabrous bilocular ovary.

Capsule <sup>not quite</sup> ~~nearly~~ 6 inches long,  
 almost cylindrical, straight,  
 slightly grooved on each side, at  
 the borders of the thin dissepiment,  
 2-valved. Immature seed linear-  
 clavate, nearly half an inch  
 in length; the fulvous coma  
 thrice longer.

Mr. Brown well says of his  
Lyonsia that it is "Parsonsia  
minis affinis." The two should  
 perhaps be united. The best, if  
 not the only distinction is ~~the~~ to  
~~thickish~~ be found in the thickish  
 lobes of the corolla, which are es-  
 sentially or nearly valvate in  
 articulation in Lyonsia. To  
 this genus rather than to Parsonsia  
 belongs A. Müller's P. ventricosa.  
 The present species is a close congener  
 of Schima scabra, Labille, of New  
 Caledonia, which DeBumville has  
 referred to Lyonsia. From this it  
 differs chiefly in the pointed leaves,

almost glabrous inflorescence, ls.,  
 the smaller and acute lobes to the  
 calyx, nearly glabrous corolla,  
 with merely a bearded ring in the  
 throat (not with five vertical bearded  
 lines), the nectary and ovary glabrous,  
 and the terete capsule. This  
 comparison is made with *Labillardiera* =  
*Diels*'s figure: I have not seen *Pis*'  
*Plant*.

Alstonia, R. Br.

(crebre

~~Subgen. *Dissurasperrum*. Sem-~~

~~ina indigne aequaliter, crebre~~

~~mus-~~





9. Alstonia, R. Br.

Subgen. Dissurasperrum, Semi-  
na undique æqualiter et ere-  
brime ciliato-plumosa, hanc  
vero comosa, basi apiceque  
in acumen vel caudam pro-  
ducta, cauda superiori apice  
bifida; albumen tenuissimum.

Corolla lobi lineari-lanceolati,  
extirpatione  
sinistrorsum (sensu Candolle) con-  
voluti; faux barbata. — Arbutes  
vel arbuscula insularum, gla-  
berrimi; foliis oppositis, peti-  
olis angustissime marginatis,  
basi pl. m. dilatatis; cymis  
patentibus.

R. Br. (Tab.)

1. Alstonia (Dissochaspermum) costata

A. foliis ovalibus <sup>vel</sup> oblongis - etiam <sup>marginibus undulatis</sup> angustis lanceolatis acuminatis  
seminibus ovalibus utrinque  
imperfecte acuminatis vel breviter  
caudatis.

Echiles costata, Forst. Prodr.

p. 20, excl. syn.

Alstonia costata, R. Br. in

Mem. Wern. Soc. 1. p. 413;

Guillemin. Zeph. Jait. p. 46

(ubi descr. Forst.); A. DC.

Prodr. 8. p. 409.

Hab. Mountains of Tahiti and  
 Rimoo, Society Islands.

Forster's detailed description  
 of this species, printed by Guille-  
 min, and Brown's character leave  
 little to be supplied, except the  
 details of the seeds. Brown's



doubt whether the cilia of their margin were elongated so as to form a coma at the ends was well founded. In fact the seeds are not properly comose at all, but strongly, <sup>and equally</sup> densely ciliate-fringed all round, the fringe diverging at right angles with the margin. In this species the tails of the seed are not more than half the length of the body, or even shorter, flat, fringed equally with the rest of the margin, the lower one (pointing to the base of the capsule entire and rather blunt, the other two-cleft or notched. The rudiments of one or both of these tails, so conspicuous in the following species, are discernable in *S. ophioglyoides* of Müller, in which the hairs extend both ways to form a coma. In Forster's description

of the seed "margine cylindrica"  
 is evidently a lapsus pro margine  
ciliata. The capsules vary from  
 2½ to 8 or 9 inches in length.  
 The leaves vary from oval or  
 oblong-ovate to narrowly lance-  
 olate, as Foster remarked,  
 and from 2 to 8 inches in length,  
 but are all sharply acuminate.  
 Border bearded in the throat,  
 the beard extending slightly to  
 the ~~base~~ base of the lobes. The  
 latter are linear-lanceolate, and  
 somewhat falcate, obtuse.  
 Depressed, rather ovate and obtuse, than lanceolate and acute,  
 obtusish. I cannot detect  
 the "five corpuscles," vix armato  
oculo conspicuo, which are  
 thought now anything to  
 represent the nectary, except  
 obscure indications of a ring  
 or circular disk. The stig-  
 ma is subtended by a cupulate  
 or annular indurium, and is

acutely 2-lobed or bipartite.

Plate

Alstonia costata,

Tab.

Costa (long ped.)

musa, Labill. (Tab. )

2. Alstonia (Dissurasperrum) plu-

A. foliis ovalibus ellipticis ob-  
longiore obtusis nunc obtuse  
subacuminatis; <sup>basi acutis</sup> seminibus ob-  
longis utrinque longius cau-  
dato-productis. (Folia nunc par-  
va <sup>vix</sup> bipinnata, nunc 6-8 pinn-  
aria.

Alstonia plumosa, Labill. Det.  
Austr. Cal. p. 28, t. 32; A. Ob. l. c.



Tab. Mountains of the Freeje  
and Samoan or Navigators' Islands.

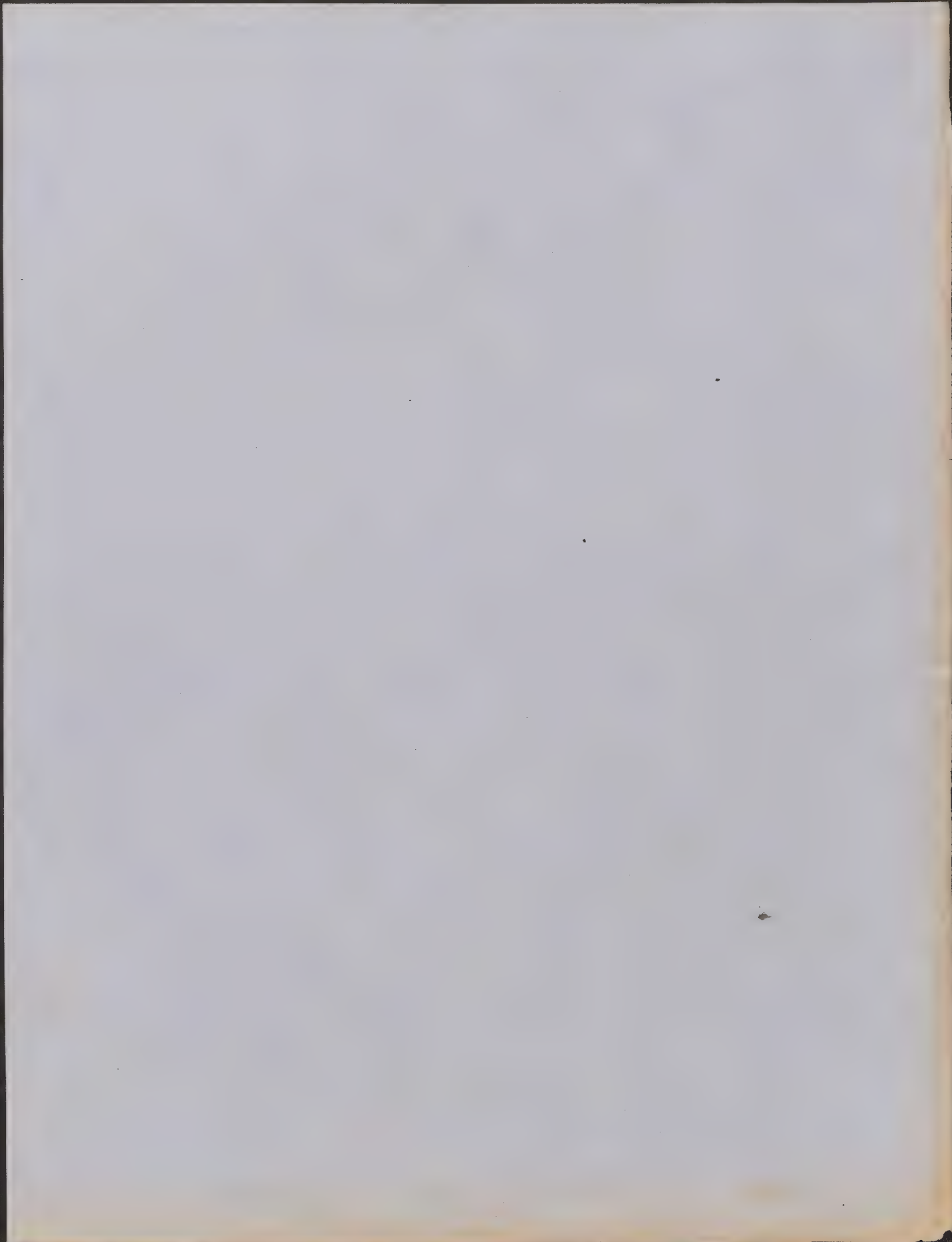
This is very near the foregoing species, nearer than would be supposed from Labillardiere's plate. For that does not well represent the stigma, which is indusiate-appendaged below and with sharper lobes above, nor the calyx, which is ~~from~~ five-cleft to the base. The lobes of the corolla, moreover are a trifle narrower and less obtuse. In our specimens these are glabrous, except at the very base; this alone causes some hesitation in referring them to Labillardiere's A. Plumosa of New Caledonia, in which they are said to be pilose for the whole length of their inner face: but the figure hardly verifies this. The

seeds, which he (Candolle) suspected to be wrongly represented ~~and con-~~  
~~firmed~~ by Labillardiere, accord  
 well with those in our specimens  
 from the Feejee Islands, except  
 that the tails <sup>of the latter</sup> are flat rather  
 than <sup>exactly</sup> filiform and less abrupt at  
 their origin; they are longer than  
 the body of the seed, plumose-ciliate  
 like the margins of the latter, the  
 upper one acutely bifid at the  
 extremity. The slender follicles  
 vary from 3 to 9 inches in length.

These two species might very  
 well be detached from the genus  
Alstonia, possibly with better  
 reason than Blaberopus has  
 been. It seems wiser, however,  
 to ~~leave~~ let the genus contain the  
 types ~~of~~ which Mr. Brown as-  
 sociated in it.

Plate - Alstonia plumosa.

Flowers - details. seeds -





Page 11  
J. H. [unclear]

[unclear]

Ord. Oleacea.

1. Olea, Tourn., R. Br.

1. Olea verrucosa, Link.

Hab. Cape of Good Hope, in the vicinity of Cape Town.

2. Olea Sandwicensis, Sp. Mw.

O. laevis; foliis lato-lanceolatis  
oblongisve acuminatis integerrimis  
petiolatis supra lucidis subtus pallidis;  
racemis axillaribus brevibus;  
corolla profunde quadri-

partita; staminibus (an  
semper?) 4; ovario conico; ~~the~~  
styl drupa ovoida (in stip.  
angustifol. ellipsoidea).

Tab. Sandwich Islands:  
Oahu, on the Maala Mountains  
behind Honolulu; also in Kerm's  
collection from Kauai (no. 479), and,  
a narrow-leaved form with the  
<sup>immature</sup>  
~~young~~ fruit elongated ellipsoidal  
from Molokai, no. 482.

"A tree, twenty-five or thirty feet  
high," glabrous throughout, or in spec-  
imens from Kauai, with the young  
parts slightly pubescent, Branchlets  
tenu, grayish. Leaves opposite or  
sub-opposite, resembling those of Laurus  
nobilis, but pale beneath, from 3 to 5½  
inches long, varying from broadly lance-  
olate to oblong or ovate-oblong, more  
or less acuminate, <sup>entire</sup>, pinnately veined, Cori-



acous, minutely punctate, the base acute or acutish; petiole 3 to 6 lines long. Racemes in the upper axils, from half an inch to two inches long, on a very short peduncle, many-flowered; pedicels  $1\frac{1}{2}$  to 3 lines long, calyx small, 4-lobed. Corolla <sup>white,</sup> rotate, deeply 4-parted; the ~~lobe~~ divisions oval, their margins very slightly overlapping in the bud. Stamens 4 in all the flowers examined; filaments very short, inserted on the very short tube of the corolla alternate with its divisions; anthers <sup>large,</sup> as long as the corolla, oval, mucronate, somewhat introrse. Ovary elongated-conical or pyramidal, 2-celled, tapering into a very short thick style which is surmounted by a capitate two-lobed stigma. Ovules 2 in each cell, pendulous. Drupe oval, "as large as a garden cherry, blue", with a

somewhat copious pulp and a thick, osseous putamen, one-celled, one-seeded. Albumen fleshy, inclining to corneous. Embryo of the genus; the flat cotyledons oblong. — In the narrow-leaved <sup>form</sup> ~~specimen~~ of Remy's collection, the unripe fruit is much larger, 9 lines long, and in shape quite like the common olive.

The four stamens, although unusual, are not unprecedented, being occasionally met with in Chironanthus. Variable as to foliage, as are the specimens before me, I do not doubt that they all belong to one species, except possibly Remy's no. 482, of which I have not seen the flowers.



\* followed by  
Blume, Endlicher, and Se-  
Candolle, attributes to Chionanthus  
and Linociera, an exalbuminous  
seed <sup>and SeCandolle forms a tribe thereupon</sup> and a thick embryo, This is  
not the case, ~~at least~~ in the original  
species of either; ~~genera~~ Chionanthus  
Virginica, as I had long ago noted, and  
C. (Linociera) ligustrina, as C. Wright  
has observed upon the living plant and  
I have verified upon his specimens,  
having the albumen and <sup>flat</sup> ~~thick~~  
cotyledons of Olea. Blume, in writ-  
ting, rightly enough, the two genera (in  
Mus. Bot. 1, p. 317), still characterizes the  
seed and embryo in this way; and repeats  
Dr. Hooker confirms it for several Asiatic species, and  
~~as he repeats these characters under his~~  
~~C. amurensis, the Asiatic species should~~  
~~be re-examined in this regard.~~  
~~even for the C. compakta of the West Indies.~~  
The shape of Chionanthus Virginica  
is sometimes three-sided.



3. Olea maritima, var. depressa =  
perata, Mull., Cat.!

Hab. Singapore. But the in-  
fluence is as in O. divica.

An Olea? occurs in the  
Zeeje collection, an imperfect  
specimen, with forming fruit.

2. Notelaea, Nent.

1. Notelaea longifolia, Nent.

2. Notelaea ovata, R. Br.

Ital. Hunter's River, New South  
Wales. A fragment of former, in  
print, and of the latter, <sup>as figured in Endlicher's Iconographia</sup> - ~~photo~~, proba-  
bly is not specifically distinct - with  
the corolla and stamens fallen.

Ord. Jasminacea,

Jasminum, Tournef.

1. Jasminum Bahiense, DC.

Hab. Brazil, near Rio Janeiro;  
"in wild situations, and to all ap-  
pearance indigenous. Flowers  
white."

2. Jasminum didymum, Forst.

Jasminum didymum, Forst. Prodr.  
p. 3; Vahl. Synt. 3, p. 2; Guillemin.  
Reph. Tart. p. 40.

3. Azoricum?, Hook. & Arn. Bot. Beech.

Hab. Tahiti, Society Islands;  
common.  
"A woody vine." This is not



Voy. p. 66, non Linn.

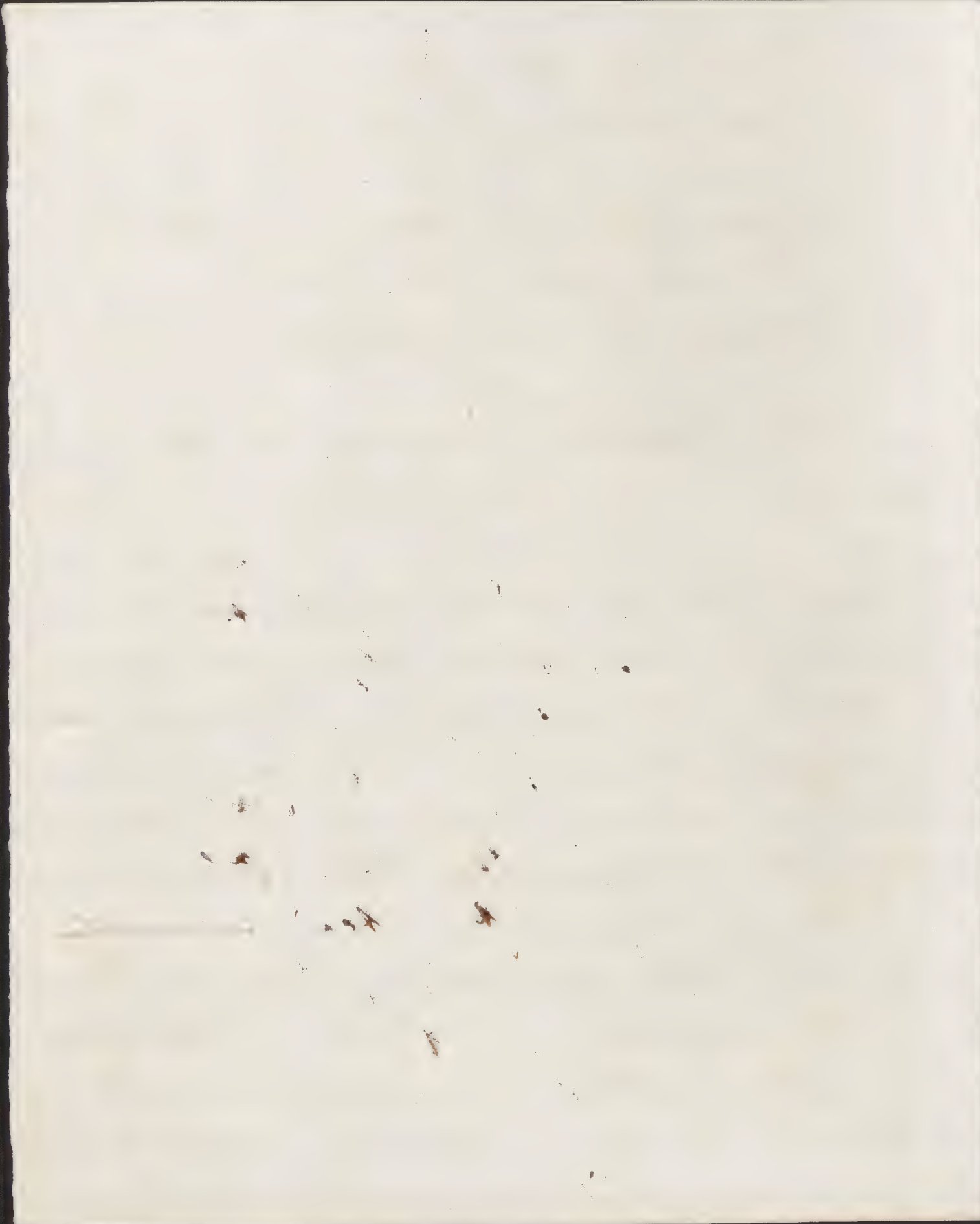
1. divaricatum, R. Br. Prodr. N. Holl.  
p. 521?

2. parviflorum, Decaisne, Herb.  
Tinnor, p. 77; DC. Prodr. 8. p. 310;  
Miq. Fl. Ind. Bat. 2, p. 531.

Itab. Tahiti, Society Islands;  
common. "A woody vine."

Soma-Soma,  
Mba<sup>(and)</sup> Vanna-levu, Feejee Islands.

All our specimens must belong  
to one species except, perhaps, an  
imperfect one from Vanna-levu,  
Feejee Islands, which has more  
decided calyx-teeth, the truncate  
border of the calyx being ~~usually~~  
in all the rest minutely or abso-  
lutely, toothed. The tube of the corolla  
is only  $2\frac{1}{2}$  to 3 lines long; and the  
lobes in the same specimen variable in  
form (according to age?), sometimes  
acute, sometimes obtuse.



3. Jasminum simplicifolium, Forst.

Jasminum simplicifolium, Forst.  
l.c.; Vahl, Enum. 1, p. 27; Sims,  
Bot. ~~Mag.~~ Mag. t. 980.

J. australe, Pers. Syn. 1, p. 8; DC.  
Prodr. 8, p. 306.  
"J. gracile, Forst." in Hem. in Brougl. 1861, p. 257, sphaerul.,  
an Andr. Bot. Keps.?

Stab. Samoa, Tonga or Friendly,  
and Feeje Island.

In this the calyx-teeth very  
much in size, ours and those of Dr.  
<sup>Harvey</sup> from the Friendly Islands having them  
in some cases as conspicuous as  
in the figure in the Botanical  
Magazine, in others shorter, while  
in those from the Feeje Islands  
they are minute denticulations.  
Lobes of the corolla in some specimens  
becoming linear-lanceolate and almost  
an inch long, in these 9 or 10 in number.



4. Gasminum tetragnetrum, Sp. Nov.

J. erectum, glabrum; foliis oppositis unifoliolatis, articulo petioli obscuro; foliolo ovato-lanceolato seu ovato acuminato basi acutiuscula trinervi; pedunculis brevibus paucifloris; calyce (fructifero) tetraptero, alis angustis deorsum in pedicellum longe clavatum decurrentibus sursum in dentes lineari-subulatos verticales tubum 2-3-plo superantes ~~extenses~~ productis.

Stat. Feejee Islands, on the mountain summit back of Mu-thuata, at the elevation of 2000 feet.

According to Dr. Pickering's note this is a ~~st~~ form "a shrub, from

six to ten feet high: calyx termi-  
nating in four long segments,  
and splitting laterally to expose  
the berry". It is known only  
in this fruiting state. But  
the plant is most probably a  
Jasminum and allied to ~~Blume~~  
~~Blume's~~ J. carinatum from  
the Celebes. The leaves, or  
rather leaflets (for the articula-  
tion is visible though obscure)  
are about 2 inches long, coria-  
ceous, attenuate-acuminate,  
obscurely veined, three-ribbed at  
the base. Peduncles terminal,  
about the length of the petioles; the  
pedicels usually 3, an inch  
long, slender and bibracteolate  
near the base, gradually clavate  
thickened and tetragonous  
upwards, where it <sup>runs</sup> ~~expands~~ into  
the four-winged tube of the calyx;



The wings extending beyond the truncate border into the four narrowly subulate teeth (half an inch in length), which stand edgewise; the tube is split down one side by the enlarging (more or less) fruit. The flowers are a desideratum.

5. Jasminum marissimum, Lindl.

Jasminum marissimum, Lindl. in

Mitch. Journ. Trop. Austr. p. 355; Walp.  
Ann. Bot. 3, p. 21.

Hab. Hunter's River, New South Wales.  
Apparently the same was collected at  
Moreton Bay, by Mrs. Mallard.

The taller of our specimens incline to  
twine. The leaves are short-petioled; the  
calyx-segments very slender. - What  
H. Muller and also Lindley in bot. Mitchell's  
collection name J. lineare, is J. micranthum,  
R. Br., with simple leaves,

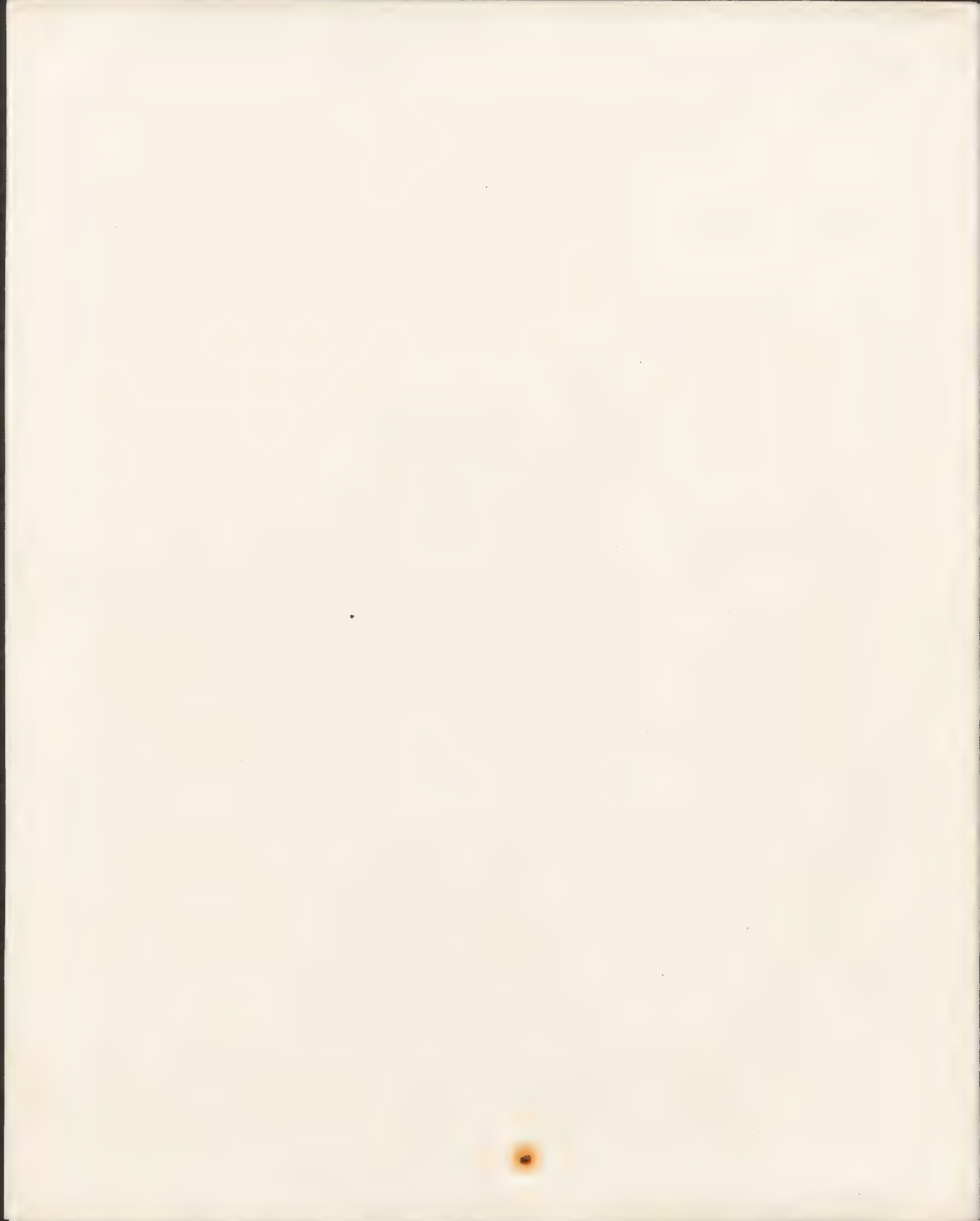


b. Jasminum confusum, B.

Hab. Island in the Sooloo Sea.  
The specimen quite too poor and  
imperfect to allow of a determi=  
nation whether it really differs  
from J. simplicifolium, which  
may have minute calyx-teeth,  
But there is no appearance  
of being scandent.

3. ~~Sea View, North.~~

~~Stat. Singapore.~~





Aschmannia

Page 100

1  
Ord. Asclepiadaceae.

1. Sarcostemma, R. Br.

1. Sarcostemma clausum, Koen.  
& Schult.

Stat. Brazil, near Rio Janeiro, -  
The same as Hostmann's coll. 962, from  
Surinam; the larger leaves elliptical  
or ovate-oblong, often with a small  
basal sinus. Probably it includes  
some other species of the section.

2. Sarcostemma Dombeyanum, Decaisne.

Stat. Peru: exsiccated river-bed near  
Lima: in fruit.

2

3. Sarcostemma (Philibertia) marsumpi-  
florum, Decaisne.

Itab. Peru; in the vicinity of  
Obrajillo. "A climbing vine."

2. Peplonia, Decaisne.

1. Peplonia nitida, Decaisne.

Peplonia nitida, Decaisne in Ob.  
Prodr. 8, p. 546.

Itab. Brazil in the vicinity of  
Rio Janeiro.

The follicles (smooth) and seeds  
are like those of Sarcostemma.  
The peduncles are ~~stem~~ truly axillary,  
and the flowers not at all pulver-  
ulent.

3. Gomphocarpus. R. Br.

1. Gomphocarpus arborescens. R. Br.

Itab. Cape of Good Hope, in the  
vicinity of Cape Town.



3

2. Gomphocarpus fruticosus, R. Br.

Hab. Madeira, St. Helena, and Sydney, New South Wales; adventive.

4. Asclepias, Lin.

1. Asclepias campestris, Decaisne?

Hab. Rio Negro, North Patagonia, on the upland plain; foliage only; probably a smoother and narrower-leaved ~~variant~~ form of A. campestris of Montevideo.

5. Ditassa, R. Br.

1. Ditassa umbellata, Decaisne, &

2. Ditassa crassifolia, Decaisne.

Hab. Brazil, in the vicinity of Rio Janeiro; only a fragment of the latter.

Oxyptalum, R. Br.

1. Oxyptalum Banksii, <sup>Schult.</sup> Roem. &

Oxyptalum Banksii (Roem. Schult.  
in Mart. & Zucc. Nov. Sep. 45 p. 1, p. 48, t. 29)  
Syst. 6, p. 91 & O. propinquum,  
Decaisne in Db. Prodr. 8, p. 581,  
582.

Stat. Brazil, in the vicinity of  
Rio Janeiro.

2. Oxyptalum Megastamicum, <sup>Spreng.</sup>

Stat. Brazil, near Rio Janeiro.

3. Oxyptalum (Schizostemma) <sup>Decaisne.</sup> Hookeri,

Gynanchem birostratum, Hook.  
& Arn. Bot. Beech. Voy. p. 35,  
forma latifolia.

Oxyptalum Hookeri, saxatile, & er=  
fertiflorum, Decaisne in Db. Prodr.  
8, p. 587, 588; Gay. Fl. Chil. 4, p.  
397, 399.

Stat. Chili, on the coast, near  
Valparaiso; very variable in foliage.



5  
7. Sonninia, Reichenb.

1. Sonninia Menziesii, Decaisne, <sup>l.c.</sup>

Diplolepis Menziesii Röem. &  
Schult., Syst. b., p. 95; Stork. &  
Arn.

Hab. Chili, on the heights back  
of Valparaiso.

8. Matelea, Aubl.

1. Matelea palustris, Aubl.

Matelea palustris, Aubl. Griar.  
1, p. 277, t. 109; Decaisne in Ob.  
Prodr. 8, p. 591

Hab. Brazil, in the Organ Moun-  
tains, near Rio. Accords very well  
with Aublet's figure.



9. Tylophora, K. Br.

1. Tylophora barbata, K. Br.

Hab. Sydney, New South Wales; the original habitat.

2. Tylophora Perrottiana, Decaisne

(Luzon,

Hab.) Philippine Islands, in the vicinity of Manila, where it was detected by Perrottet.

3. Tylophora Samoënsis, Sp. nov.

T. Herbacea, volubilis, fere glabra;  
foliis cordatis acuminatis membranaceis;  
periculis filiformibus petiolo apice glandulifero longioribus;  
umbellis plurifloris; corollis

7  
virescentibus; corolla staminea  
foliolis subcarnosis lineari-  
oblongis. apice acutiusculo  
~~tantum~~ Antheras adaequante  
tantum a gynostegio liberis;  
pollinibus obovatis-oblongis ad-  
scendentibus, ~~subsessil~~ fere  
~~sessile~~ brevissime stipitatis.

Ital. Savaii, one of the Sa-  
moan Islands.

"An herbaceous vine," almost  
or quite glabrous. Leaves mostly  
from 3 to 5 inches long and  $1\frac{1}{2}$  to  
3 inches broad, ovate and more or  
less deeply cordate, abruptly and  
conspicuously acuminate, mem-  
branaceous, veiny, on slender  
petioles; bearing a small gland  
at the junction with the lamina.  
Peduncles and pedicels filiform.



Corolla "greenish", 4 or 5 lines in diameter, the <sup>bracts</sup> ovate acute lobes valvate in aestivation. Staminal ~~cor~~ corona of five narrower and but slightly fleshy appendages, which are strictly adnate to the gynostegium, only their tips which equal the anthers free. Pollinia ascending or nearly erect, scarcely if at all stipitate. Follicles 6 inches long, slender, smooth.

4. Tylophora Brackenridgei, ~~Pickeringii~~, Sp. Nov.

T. volubilis, glabrum; foliis ovatis subcordatis mucronatis; ~~petiolo~~ glanduloso pedunculis petiolum apice haud glanduliferum sub- aequantibus; umbellulis plurifloris;



9

floribus "carneis" undique glabris;  
corona staminea e glandulis seu  
gibberibus carnosis lateraliter  
compressis usque ad apicem acu-  
tum adnatis (in sicco subulatis)  
anthera brevioribus; pollinibus  
ovalibus ~~mediis~~ juxta medium  
stipiti brevi flexuoso affixis  
adscendentibus.

Itab. Orolan, Feejee Islands.

Leaves  $1\frac{1}{2}$  to 2 inches long,  
probably somewhat fleshy or coria-  
ceous, ovate and usually more  
or less cordate, the obtuse apex tip-  
ped with a ~~small~~ minute acu-  
mination; veins evident; no gland  
at the junction with the petiole;  
the latter glabrous like the whole  
plant, about half an inch long.  
Umbels small, clustered; pedicels 3

lines long. Calyx very short; the  
lobes obtuse and ciliate. Corolla  
"flesh-colored"; yellowish-white in  
the dried specimen, <sup>glabrous,</sup> rotate, 5-  
parted, about half an inch in  
diameter; the ovate-oblong di-  
visions, <sup>narrowly</sup> slightly overlapping in  
estivation. Body of the anthers  
a line long, of a firm coriaceous  
texture; the ~~prothecae~~ scarious  
tips behind the small cells short  
and transversely oval; the corneal  
appendages a fleshy, salient, nar-  
row crest adnate by its ~~area~~ thin-  
ner inner edge to the back of  
the body of each <sup>of a brownish color,</sup> anther, and  
gradually narrowing to upward  
to a point below the level of the  
polliniferous cells, <sup>the base dilated,</sup> pollen-marks  
short oval, ascending on a curved  
stipe which is shorter than they,  
~~and inserted at their~~ <sup>attached</sup>



and attached at ~~their~~ about their middle. Stigma depressed. Immature follicles smooth, short, acuminate-rostrate.

Without doubt this is a congener of Endlicher's Stybanthera biglandulosa, the pollen masses of which are probably less pendulous than is represented. The structure of the androecium is very similar; but the corneal appendages are ~~transversely~~ transversely dilated at the base, thence gradually tapering to an acute summit, which is perfectly adnate to the back of the anther. In Night's Gphisia (Tylophora Gphisia and Gvarii, Decaisne) I find the same structure, the <sup>fleshy</sup> appendages equally adnate, and laterally compressed.

~~Stybanthera~~ " Stybanthera "



20. Marsdenia, R. Br.

1. Marsdenia maculosa, R. Br.

Stat. New South Wales, at Sydney  
and on Hunter's River.

III. Gymnema, R. Br.

Gymnema, Bidaria, & Gongro-  
nema, <sup>(Endl.)</sup> Decaisne in Db. Prodr.

1. Gymnema subundum, Sp. Nov.

G. volubile, undique glabellum;  
 foliis <sup>membranaceis</sup> ovato-lanceolatis seu ovato-  
 oblongis basi rotundatis vel sub-  
 cordatis; pedunculis petiolum  
 adaequantibus; umbella saepius  
 bifida; corolla rotata 5-partita  
 imbric. squamulis fere obsoletis  
 sinibus instructa; gynostegio  
 brevissimo.

Hab. Feejee Island; on the  
 mountains of Muthuata, according to  
 the ticket.

14  
Of this there is a single specimen, in flower, with a slender stem; the young shoots, leaves, calyx, &c. pilose-pubescent under a lens, to the naked eye nearly glabrous. Leaves opposite, membranaceous, 2 or 3 inches long, with somewhat undulate margins, acutish, acute, or acuminate, pinnately veined, the base either rounded or somewhat cordate; the petioles half an inch long. Peduncles solitary, nodose thickened at the insertion of the pedicels; this ~~node~~ receptacle usually dividing and each division lengthening into a thickened rhachis about two lines long. Pedicels numerous, about 3 lines long. Calyx small, much shorter than the corolla, the lobes roundish. Corolla convolute in aestivation, but the margins only



15

Slightly overlapping, the expanded 5-parted corolla only 2 to 3 lines in diameter, greenish, or the upper surface dull purple, glabrous within and without, but the margins of the oblong obtuse divisions obscurely ciliate; at ~~the sinuses~~ each sinus is a very ~~small~~ short fleshy squamula, almost obsolete, but evidently answering to the appendages of the corolla in the typical species of Gymnura. There are no decurrent lines or ridges below the squamulae; indeed the tube of the corolla is almost wanting. No corona, glands, or other appendages to the androecium, which is very short. Anthers, 5 of the genus. Pollen-masses between clavate and obovate, erect, constricted a little above the insertion

16  
of the short stipe. *Stigma*  
umbonate, Follicles not seen.

The aestivation of the corolla in  
*Gymnema* is said <sup>by Planch</sup> to be valvate,  
and ~~is~~ <sup>is particularly</sup> so specified in his *G. (Gymnema)*  
*recurvifolium*. In ~~all~~  
the species I have examined it is  
convolute, as described by DeCaisne,  
but in all ~~the spec~~ of the present  
collection, and especially in *G. stenophyllum*,  
the margins so slightly  
overlap that <sup>the</sup> aestivation would readily  
be taken for valvate.

(Tab.)  
2. *Gymnema stenophyllum*, Sp. Nov.

*G. fruticosum*, erectum, ramosis-  
simum, fere glabrum; foliis cor-  
iaceis linearibus basi attenuatis  
marginibus revolutis, costa subtus  
pilosula; pedunculis axillaribus



17  
alte 5-fida)

brevissimis; corolla rotata ~~5-partita~~  
~~tita~~ inappendiculata, lobis  
extus glabris intus tenuiter  
barbatis; gynostegio brevissimo,  
pollinarum stipitibus gracili-  
bus spiratiter contortis.

Hab. Izeje Islands; on the  
barren upland of Muthuata.

This is "a shrub, 3 to 5 feet  
in height," according to Dr. Pickering's  
notes, apparently very bushy;  
the slender glabrate branchlets  
crowded with leaves, and flowering  
in most of their axils. Leaves  
narrowly linear, 2 to 4 inches  
long and 2 lines or less in width,  
tapering below into a short pe-  
tiole, in some specimens so  
revolute on the margins as to  
appear filiform, coriaceous,



glabrous except the midrib beneath, which is minutely hairy, the upper surface lucid and veinless, the lower indistinctly feather-veined. Peduncles one or two lines long, or almost wanting; the numerous pedicels one or two lines long, crowded on a short squarrose rachis. Lobes of the calyx oval, ciliate, nearly half the length of the corolla. The corolla is apparently white (not greenish-brown as recorded in Dr. Pickering's notes), rotate when fully expanded, 3 lines in <sup>(glabrous externally)</sup> diameter; the oval obtuse lobes delicately bearded with a white pubescence inside, almost valvate, the margins lightly overlapping in aestivation; the sinus and throat wholly destitute of appendages. Androecium very

19

short, destitute of coma or glands,  
the <sup>inflexed summit</sup> scarious appendage of the anther  
large, ovate and obtuse. Pollinia  
clavate-oblong, erect, shorter than  
their filiform spirally-contor-  
ted stipes. Stigma unborate.  
Follicles unknown.

The pollinia accord with the  
character of Sarcoborus, R. Br. (but  
they are not "apice lateraliter pel-  
lucida" as Miquel has it); the  
fruit is needed to determine if  
our plant belongs to that genus.  
As the genera are arranged by Decaisne, the  
present plant does not accord throughout either

Plate with Bidaria or Gongyrenema  
both manifestly inseparable from  
Gymnema.

It has recently been  
collected by Dr. Seemann (no. 322), but with ~~also without~~  
the fruit with only young ~~fruit~~ follicles; these are  
slender, tapering, and smooth.

Plate

26

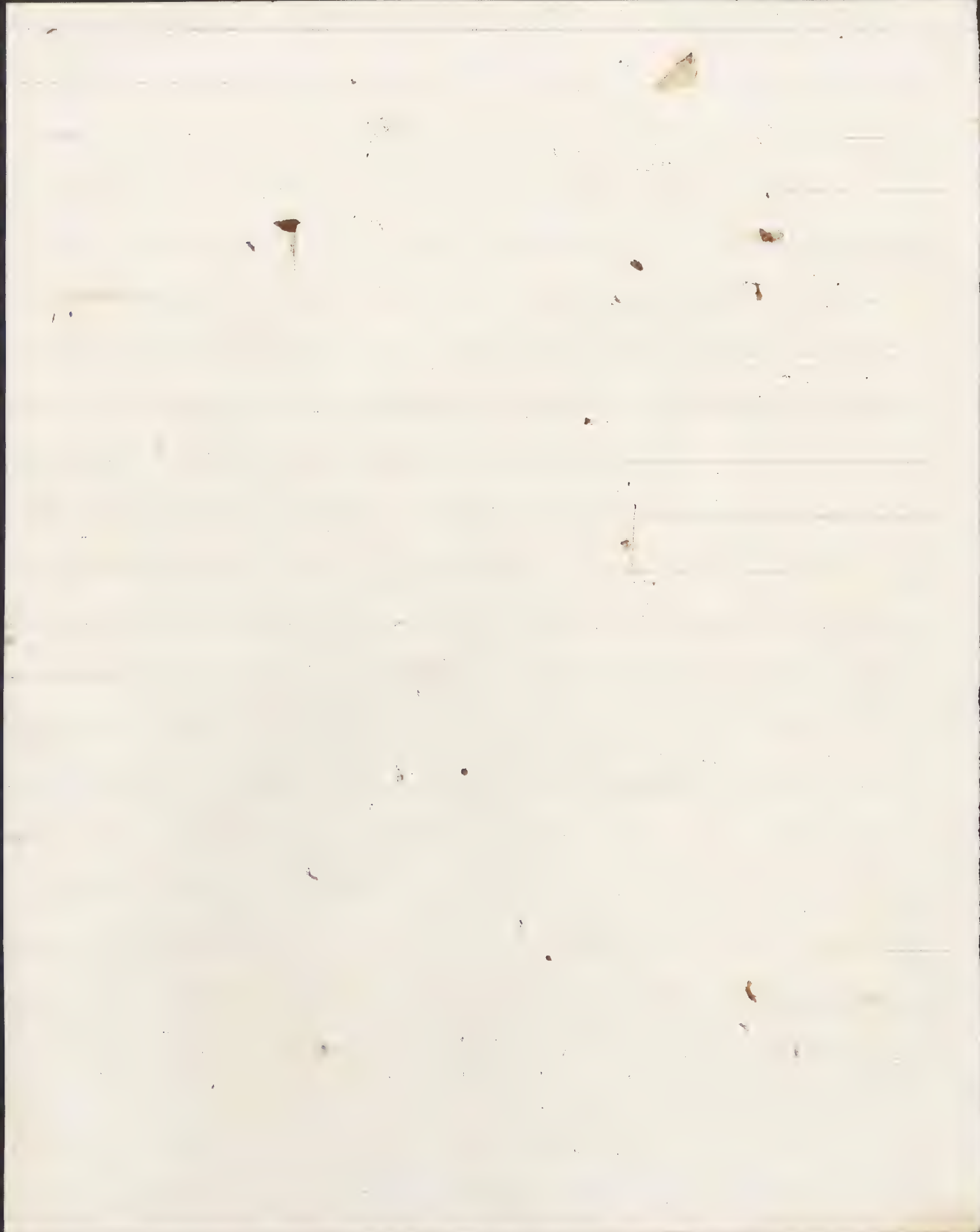
There is in the collection moreover, a specimen ticketed as from New South Wales, which is apparently referable to Gymnura as established by Brown, but to none of his species. It has a glabrous ~~in~~ corolla wholly destitute of squamula or other appendages. The materials are too imperfect for publication.



12, Itoya, R. Br.

1. Itoya bicarinata. Sp. Nov.

H. scandens; foliis glabellis ~~gla-~~  
subcarnosis planis obscure pen-  
nerviis ovalibus sen ovatis  
brevissime ~~se~~ abrupteque acumi-  
natis basi rotundatis subcorda-  
tisve, ~~limbo~~<sup>lamina</sup> supra petiolum his-  
tellum glandulosa; pedunculo  
pedicellis haud longiori; sepalis  
lineari-oblongis; corollae <sup>albæ</sup> extus glabræ  
intus puberulæ lobis ovatis  
acutis planis; corone stamineæ  
foliolis incrassatis, disco obovato  
concavo angulo interno longi-  
usculæ acuminato, marginibus  
haud revolutis, dorso eximie bi-  
carinato.



22

Hab. Manua, Tutuila, and  
Savaii, Samoan Islands. Also  
Tongatabu or Feejee Islands.

Stem fleshy, trining; the younger  
branches more or less pubescent,  
or hairy, as are the petioles,  
peduncles, pedicels, and calyx.  
Petioles 6 to 18 lines long; the blade  
of the leaves 3 to 5 inches long,  
and 2 to 4 inches broad, doubtless  
moderately fleshy, but ~~indistinctly~~  
showing rather indistinct pin-  
nate veins in the dried specimens,  
minutely pubescent or glabrous,  
apparently not glaucous; the upper  
face having a single or triple gland  
at the junction of the petiole with  
the midrib; ~~Pedunc~~ The margins  
not revolute. Peduncles 6 to 18  
lines long; pedicels slender, about  
an inch long. Corolla 9 or 10 lines  
in diameter, "white", of a rather



texture for the genus, glabrous on the lower and obscurely pubescent on the upper surface, the margins of the triangular-ovate and acute lobes not revolute. Pieces of the staminal crown a line and a half <sup>long</sup> on the concave and ob-ovate and internally acuminate projected upper surface or disk, their vertical thickness little less, inclusive of the two strong and closely approximate keels, the edges of the disk acute. Follicles narrow, 5 inches long.

This may ~~perhaps~~ be Forster's Asclepias volubilis (non Linn.) from

Tanna. It is the Hoya Billandieri of Dr. Seemann's list, no 319 (Fiji Islands), but hardly of DeCaisne; for the ~~the~~ pieces of the staminal crown are strikingly acuminate, instead of "angulo <sup>riore</sup> ~~intere~~ obtuso."

Among the specimens too imperfect for determination are  
1. Foliage, <sup>(from the Feejee Islands, of</sup> ~~of what a~~ <sup>that of</sup> Itoya,  
which accords with "I. pilosa sp.  
nov." of Seemann's list, no. 321 (which  
we possess equally without flowers),  
only the leaves are glabrous, or  
only obscurely pubescent along  
the midrib underneath.

2. Two, or perhaps, three species of  
Itoya from the Samoan Islands,  
and one from the Mangsi Island,  
without flowers, &c. - and

2. Itoya diptera, Seem.

Stat. Feejee Islands, Folia  
Without flowers or fruit. The same is  
the case with our specimen from Dr. Seemann's collection, no. 320, so that I  
am unable to characterize the species.

25  
13. Collyris, Vahl.

1. Collyris major, Vahl.

Collyris major, Vahl in Act.  
Soc. Hafn. 6, p. 141, ex Wall. Miq.  
Jb. Bot. 2, p. 513.

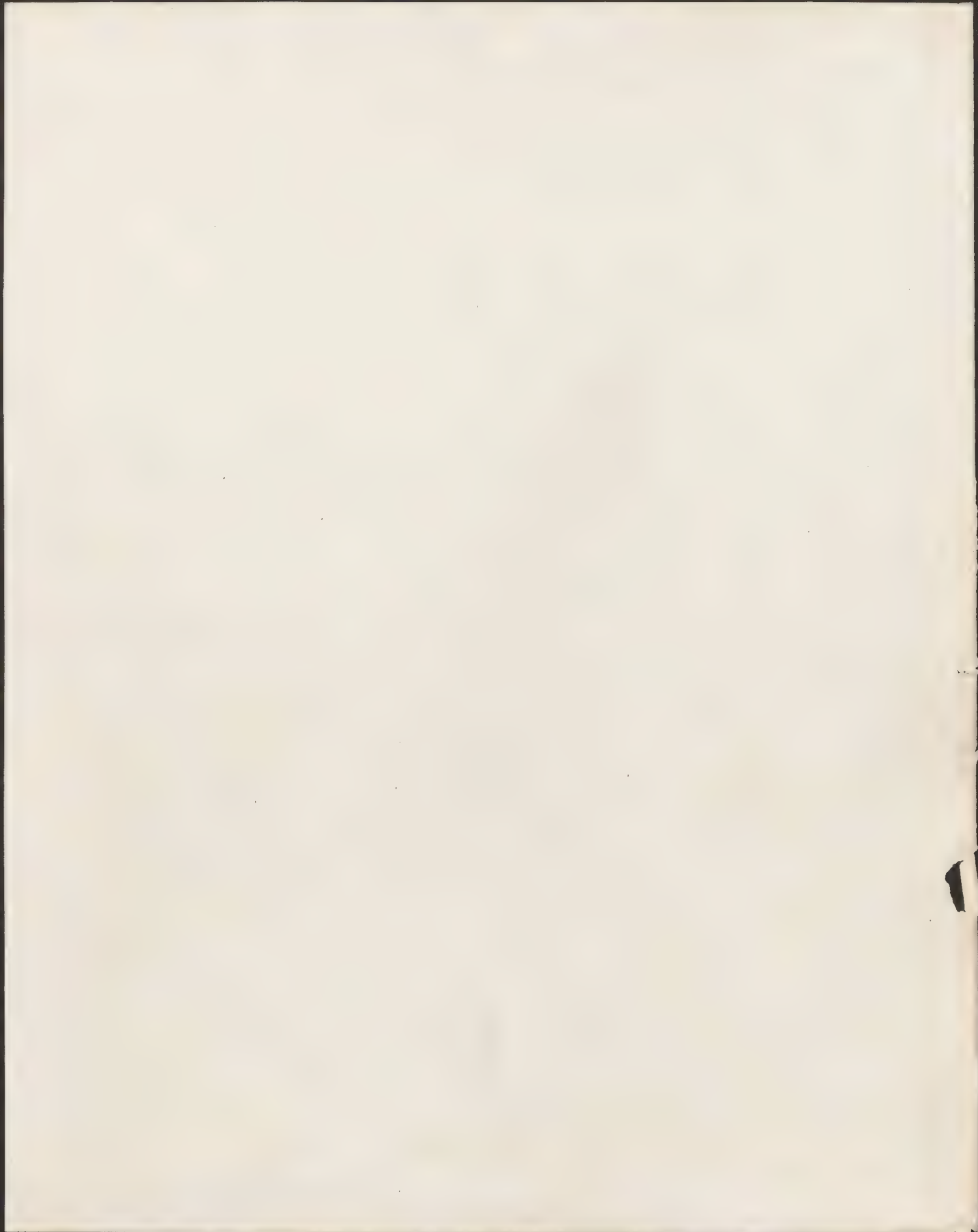
Prusula arborum, Rumph. Herb.  
Ambo. 5, p. 473, t. 175, f. 3.  
Cynchophyllum imbricatum, Blume, Bijdr. p. 1062.  
Dischidia? Collyris, Wall. Pl. Asiatic.  
Rav. 2, p. 35.

Hoya imbricata, Decaisne in Ab.  
Prov. 8, p. 137, & Silvest. 2c. Del. 5.  
t. 90.

Stat. Small island in the Sooloo  
Sea; without flowers.

(Doubtful)  
A Dischidia or Leptostemma,  
with foliage only, was gathered at  
on the Majajajai Mountains, Luzon.





Ord.      Gentianaceae.

The species, being all such as have already been investigated, need only be enumerated, as follows.

Chironia baccifera, Linn., picked up at the Cape of Good Hope.

Erythraea australis, R. Br., with uniformly pentamerous flowers, from collected at Sydney, &c. New South

Wales. Capiscera diffusa, R. Br., from Luzon, <sup>Manilla.</sup> near

Lisianthus obtusifolius, Giseb., Brazil, near Rio Janeiro.

Gentiana Magellanica, Gaud., ~~at~~ ~~Orange Harbor, Iuegia~~, with pentamerous flowers, and narrower calyx lobes, and with this a few sterile stems of G. prostrata, Vanke, - from Orange Harbour, Iuegia.

Gentiana concinna, Hook. f.,  
(probably, as suggested, a form of G. montana)  
from Lord Auckland Islands.

● Gentiana cerina, Hook. f.,  
mostly less leafy than Dr. Hooker's  
plant, from Lord Auckland Islands.

Gentiana limoselloides, H.B.K.  
with some of var. tubulosa, Griseb.,  
from the Andes of Peru above Baños,  
at Casa Blanca &c.

Gentiana saxicola, Griseb., at  
Casa Blanca, Andes of Peru.

Gentiana primulifolia, var.  
dilatata, Wedd., Chlor. And. 2. p.  
53, t. 52., still more developed, from  
Baños, Andes of Peru.

Gentiana incurva, Hook., Alpa-  
marca and Casa Blanca, high  
Andes of Peru.

Gentiana sedifolia, H.B.K.,  
short-leaved and long-leaved, <sup>condensed</sup> forms, from  
Alpamarca and Casa Blanca, Andes of Peru.



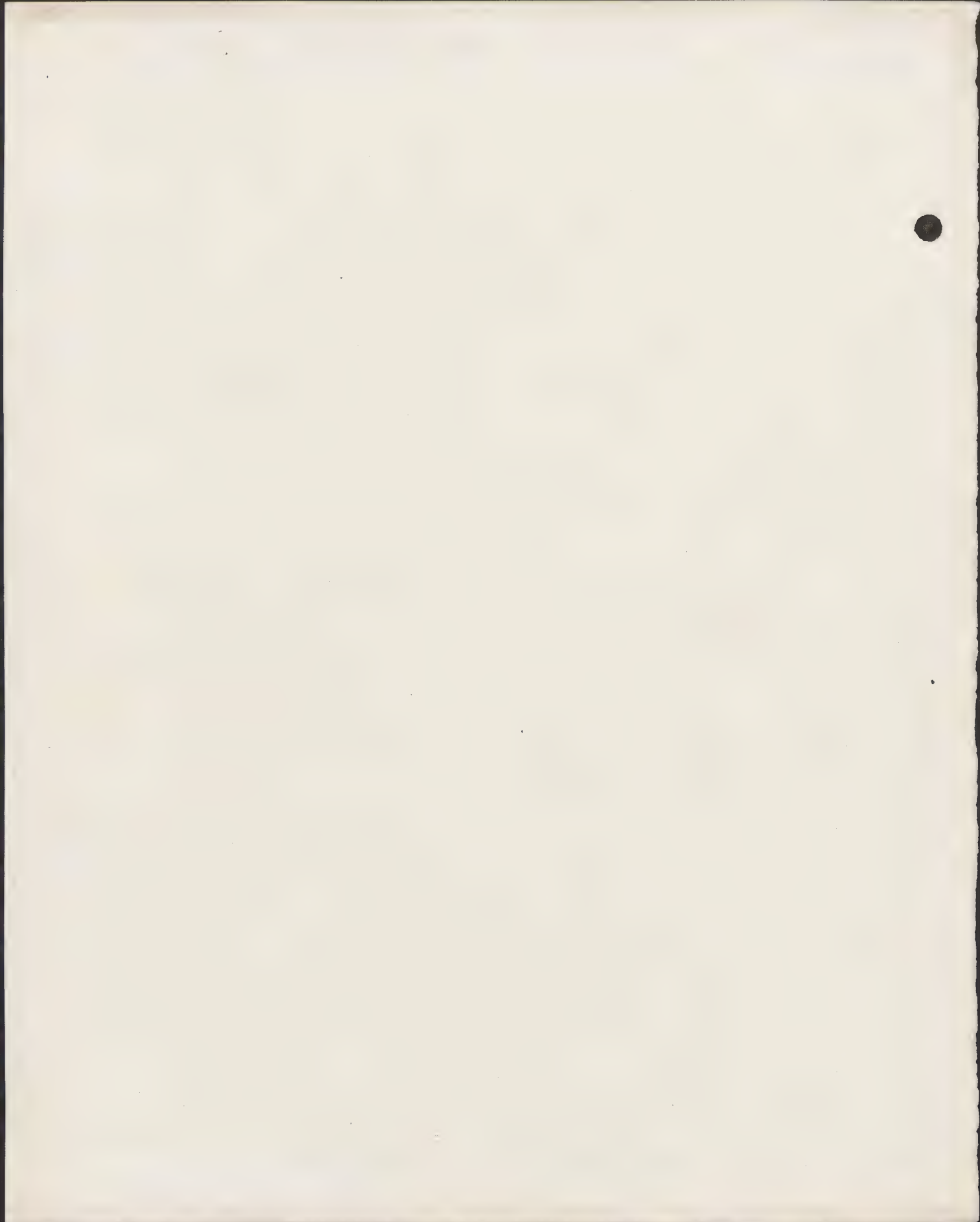
Italenia Dombeyana, Wedd. (It.  
gracilis B. Griseb. in Ob.) from Ba-  
nos, Andes of Peru.

Villarsia parnassiaefolia, R.  
Br., from Woolungwig, New South  
Wales.

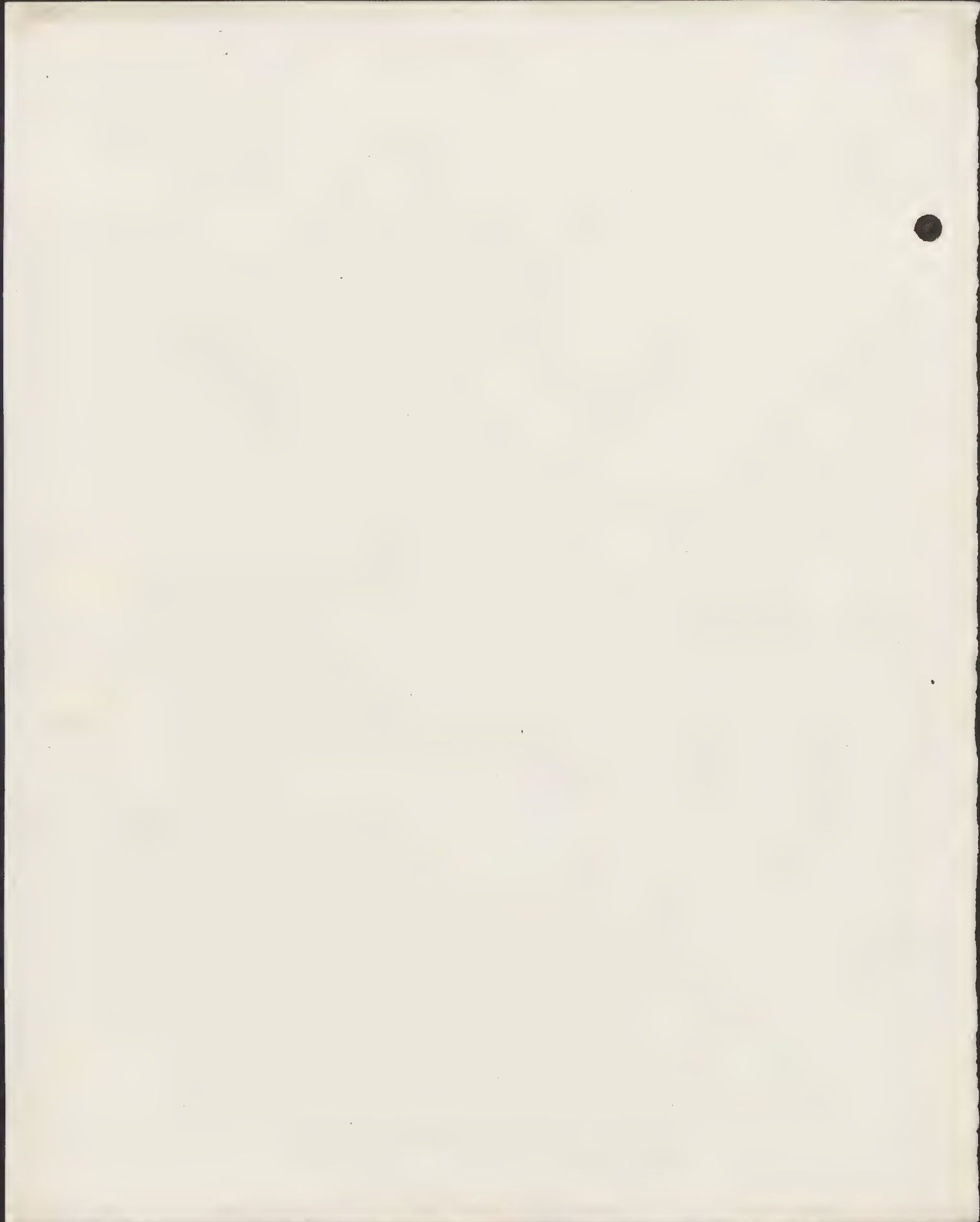
Limnanthemum Kleinianum,  
Griseb.? Tree-Islands; "common  
in Taro ponds, probably introduced."  
Collected by Dr. Harvey and by  
Dr. Seemann, the latter's speci-  
mens larger-leaved and more  
like L. Kleinianum; but in  
none of them are the three ribs at  
base prominent underneath, the flowers  
(too poor for investigation) are  
much smaller, and the seeds flat  
and <sup>rather</sup> sharp-edged, perfectly smooth.  
Those of L. Kleinianum of India (in  
the specimens coll. by Dr. Thomson <sup>in the Carnatic</sup> and  
distributed by Dr. Hooker) are not badly  
represented in Herb. Bot. Misc. 3, pt. 30,

being turgid, obtuse at the mar-  
gins, and <sup>their face</sup> minutely mucicate by  
~~salient~~ ~~minute~~ spiculae which rub off.

● Erythraea subaeoides, Gray, in  
Proc. Amer. Acad. 6, p. (the  
Schenkia subaeoides Griseb. in  
Bonplandia, 1, p. 226) was not  
collected at the Sandwich Islands  
by our naturalists.







Ord.

Solanaceae.

Solana prostrata, Linn. f.,  
was collected on the coast of Peru,  
at Callao. Two others are menti-  
oned in Dr. Pickering's notes on  
Peru, but no specimens occur in  
the collection.

Solana spathulata, Ruiz and  
Pav., is evidently one of the above;  
the other is wholly uncertain.

Lycopersicon Peruvianum,  
Mill., with foliaceous reniform bracts,  
was gathered in the environs of

Obrajillo, Peru.

Lycopersicon cerasiforme, Dun.,  
the normal state of L. esculen-  
● tum, Mill., in the coast region  
of Peru, near Lima; also L.  
regulase, Dunal, or near it, canescent, and the fruit  
Solanum tuberosum, Linn., pubescent.

from Baños, Peru; ~~appearing like~~  
~~a wild specimens; but not~~ said to  
be frequent along the upper margin  
of the region between the commence-  
ment of the rains and the upper  
limit of cultivation.

Solanum nigrum, Linn., which  
includes fifty so-called species ad-  
mitted by Dunal in the Prodo-  
mus, was collected, in various forms,  
at Madeira, Rio Janeiro, Chile,  
at Valparaiso, Peru, Sandwich  
Islands, Tahiti, Society Islands,  
Samoa and other South Sea Islands,  
New Zealand, St. Helena,

(New South Wales,  
and



Solanum obovatum, Linn.,  
picked up at St. Helena and at  
Sydney, New South Wales.

Solanum aculeatissimum, Jacq.  
(S. ciliatum, Dunal), from Rio Ja-  
neiro, Brazil, and around Stono-  
<sup>where several collectors have met with it, on</sup>  
Isle, Sandwich Island, ~~from an~~  
<sup>adventive</sup> ~~introduced~~ plant.

Solanum baavurana, Vell. Fl.  
Flum. 2. 7. 212, common about Rio  
Janeiro.

Solanum indigoferum, A.  
St. Hil. (S. umbel caeruleum,  
Vell., at Rio Janeiro.

Solanum argenteum, Dunal, at  
Rio Janeiro.

Solanum Kadula, Vahl., at Rio  
Janeiro.

Solanum piluliferum, Dunal, as far  
as can be determined from the fragment,  
near Rio Janeiro.

Solanum rufescens, and var. glabrescens, ~~San~~ Sendtn., from near Rio Janeiro.

● Solanum cernuum, Vell. (S. jubatum, Dunal), near Rio Janeiro.

Solanum Paratyense, Vell. ? from near Rio Janeiro.

Solanum curvispinum, Dunal, ? from Rio Janeiro.

Solanum paniculatum, Linn., from Rio Janeiro.

Solanum elaeagnifolium, Cav., var. leprosum, Dunal, quite like Chilean and some Texan forms, at the mouth of the Rio Negro, North Patagonia.

Solanum concavum, Lindl. ~~as well as can be determined~~, in fruit, from Chili above Santiago. Berries globular, of the size of large peas.

Solanum amblophyllum, Hook. Bot. Misc. 2, p. 231, from the valley of

Banta, below Obajillo, Peru; the specimen insufficient for the completion of the characters. "Berries small and red."

Solanum pulverulentum, Pers., from Baños, <sup>in the same district,</sup> higher up than the last.

Solanum Nelsoni, Dunal, or what I take to be that species, from the Sandwich Islands. Vide infra.

Solanum Sandwicense, Hook. & Arn. (S. Wookense, Dunal), from the Sandwich Islands. Vide infra.

Solanum incompletum, Dunal, from the Sandwich Islands. Vide infra.

Solanum viride, Solander, K. Br., Tahiti, Samoa, Tonga, and Feejee Islands, and Storden Coral Island. ~~Apparently includes S. anth-~~  
~~anthropophagorum, Seem.~~ In vari-  
ous forms, one of which, <sup>may be,</sup> apparently ~~is~~  
S. anthropophagorum, Seemann, figured in



Bomplandia, 10, t. 14 (1862.)

Solanum inamoenum, Benth.  
at the Feejee Islands, where Harvey  
and Seemann also collected spe-  
cimens. Nothing to add to the  
published character, except that  
the branches do not appear to be  
tortuous, the leaves are rarely ob-  
lique, and the cymes <sup>often</sup> are bipid  
or bivacemose.

Solanum Amicorum, Benth.,  
at Tongatabu, — a poor specimen  
adding nothing to our knowledge of  
the species. But Dr. Harvey collected  
fine specimens in the Friendly Islands,  
with flowers and fruit, the latter  
globose and resembling that of the  
preceding species.

Solanum repandum, Forst.,  
from the Society to the Feejee  
Island; "naturalized, sometimes  
cultivated, introduced by aboriginal  
settlers." A variety with the leaves

lvs. less downy, when full grown,  
the flowers rather smaller, with  
a white corolla, the ovary nearly  
glabrous, the fruit smooth,  
"as large as an apple, white  
with a purplish tinge when  
unripe, afterwards becoming yellow  
and edible, usually cooked,  
but pleasant to the taste in  
the crude state," is cultivated  
by the Freejians (at Nalova,  
Muthuata, &c.). It was ~~called~~  
~~by~~ named the Freejie To-  
mato. Tab. represents  
a flowering branch, and a fruit  
of the natural size.

Solanum aviculare, Forst., including  
S. laciniatum Ait., from New  
Zealand and ~~South~~ <sup>South</sup> Wales. A specimen of the form  
with entire leaves is ticketed as from  
Freejie Islands, but it is not referred to  
in Dr. Pickering's list, and there is

reason for supposing that it ~~came~~  
was gathered in New Zealand.

● Solanum pungetium, R. Br., at  
Sydney, New South Wales.

Solanum elegans Dunal, and S.  
violaceum, R. Br., from Hunter's  
River, New South Wales.

Solanum indicum, Linn., at Manila,  
Luzon.

Solanum torvum, Swartz, at  
Singapore.

Cyphomandra divaricata,  
Sendt., as far as can be judged,  
although that species has not before  
been met with near Rio Janeiro.

Bassovia lucida, Dunal (Aureli-  
ana, Sendtn.)

Saracha dentata, Ruiz & Pav.?,  
from Peru.

Nicandra physaloides, Linn., picked  
up at Sydney, N. S. Wales and St. Helena.



Physalis Peruviana, Linn.,  
with edible fruit, from Madeira,  
the coast of Peru and Chili, Ta-  
hiti, <sup>(P. flaccida, Island.)</sup> Freije and other South  
Sea Islands, New Zealand, New  
South Wales, and St. Helena.

Physalis angulata, Linn., from  
Cullao <sup>and Lima,</sup> of Peru, Tahiti, Tongatabu,  
<sup>and other South Sea</sup> Samoa Islands, and Manilla, Lu-  
zon.

Withania (Stygnoticum) son-  
nifera, Dunal, at St. Jago, Cape  
de Verde Island, and Cape of Good  
Hope.

Hebecladus biflorus, Miers, from  
the Andes of Peru at Baños.

Salpichroma glandulosum Miers  
(Atropa glandulosa, Hook. &c.), from  
the Andes of Peru above Baños.

Acristus arborescens, Schlecht.  
(Atropa arborescens, Linn.), from Rio

Janeiro, Brazil, and from Lima, Peru, manifestly the same species, as Schlechtendal, ~~Guss~~ Endtner, Grisebach, &c., have determined.

Lycium infaustum, L. filifolium, var. minutifolium, L. Patagonicum, and L. pubescens, Miers, Contr. 1. t. 71, 72 (the latter without flowers, and all inclining to run together) may be identified among the specimens gathered at ~~Pico~~ the mouth of Rio Negro, North Patagonia.

Lycium chilense, Miers, from Chili at Valparaiso.

Lycium salsum, Ruiz & Pav., from the coast of Peru.

Lycium Sandwicense, n. sp., Oahu, Sandwich Islands. Vide infra.

Lycium vulgare, ~~Linn~~ Dunal (L. Barbarum, Linn. sp. ed. 2. L. Chinense, Willd.), introduced at Tongatabu.

Lycium rigidum, Thunb., picked  
up ~~at~~ Cape Town, Cape of Good Hope.

● Solanum viridiflora, Sims, from  
Rio Janeiro, Brazil.

Datura Metel, Linn., St. Jago,  
Cape de Verde Islands.

Datura quercifolia, H. B.K.,  
marked by the great spines on the  
fruit, from Valparaiso, "seemingly  
indigenous on the sands of the sea-  
shore", but noted in the Flora Chilena  
as found in ~~some~~ gardens.

Datura Stramonium, Linn.  
"Tahiti", but not enumerated in Dr.  
Pickering's list, nor by Griseb.

Datura alba, Nees, Luzon,  
near Manila.

Hyoscyamus albus, Linn., at  
Madeira.

Nicotiana acuminata, Graham,  
Chili near Valparaiso.



Nicotiana glutinosa, Linn.,  
Peru, near Lima.  
Nicotiana <sup>paniculata, Linn.</sup> ~~paniculata, Walp.~~, from  
between Lima and Obrajillo,  
Peru, and elsewhere.

Nicotiana suaveolens, Labour.,  
Hunter's River, New South Wales.  
Miternichia principis, Mikau,  
Brazil near Rio Janeiro.

Cestrum lavigatum, Schlecht.,  
and C. bracteatum, Link & Otto, from  
near Rio Janeiro; - the bark of the  
latter said to be used as a substitute  
for cinchona.

Cestrum Parqui, L'Hér.,  
from Valparaiso, Chili.

Cestrum auriculatum, L'Hér.,  
and C. leptanthum, var. maius, Du-  
ral, from Peru, at Lima and to-  
wards Obrajillo; the latter species a  
new variety of the former.

Finally there are in the collection

scanty and imperfect materials of two, if not three, species of the Sandwich Islands, apparently of a new genus. The characters are noted under the name of *...*; vide infra.

1. Solanum, Linu.

1. Solanum Nelsoni, Dunal.

S. { inermis, pube stellata  
fulvo- seu flavido-tomentosum;  
caulibus fruticosis procumbenti-  
bus; foliis cordatis ~~seu ovato-~~  
vel rotundo-subcordatis integer-  
rimis utrinque molliter tomen-  
tosis saepe cum axillari parvo;  
racemo paucifloro pedunculato  
dumum laterali; floribus extus to-  
mentos; calycis ~~trivis~~ lobis ova-  
tis obtusis corolla 5-fida plica-  
ta triplo brevior; antheris apice  
attenuatis incurvis filamento  
(in sicco rugoso) subduplo longi-  
oribus.

Solanum Nelsoni, Dunal in

Ob. Prov. 13, p. 123?

p. 92?

S. argenteum, Hook. & Arn. Bot. Beech. Voy.

S. rotundifolium, Nutt. in herb. Hook.



Sandwich Islands, on the  
sands of the low isthmus of  
Maui. (Oahu, Kuny, no. 442.)  
● Kanai, Nuttall in Herb. Hook.)

Although I have not seen  
Nelson's specimen in the Banksi-  
an herbarium, upon which Dr. A. C. Donal  
in 1819 drew up his description of  
this species, I presume it is the  
plant here characterised from  
ampler materials. The grounds  
of doubt are merely these. Donal  
describes the corolla as scarcely  
twice the length of the calyx, ~~and~~  
~~the segments of the latter~~ <sup>with</sup> ~~as~~ nar-  
<sup>segments</sup> row (laciniis angustis), and he  
places the species in the section Pa-  
chystemonum. But in well devel-  
oped flowers the corolla is thrice  
the length of the calyx, and the  
lobes of the latter ovate and obtuse,  
<sup>but</sup> with age becoming somewhat nar-

rower. And the anthers, although ~~short~~ rather short, are strongly attenuate at the summit, and their cells open by a minute and strictly apical pore. It is probable that the <sup>original</sup> specimen did not admit of sufficient examination. The branches in the specimens before us, appear to be sarmentose, the younger ones herbaceous. Leaves from one to two inches in length and breadth, generally cordate-ovate in outline, obtuse, clothed with a close and thick stellate tomentum, which is usually whitish or fulvous on the lower surface but yellowish or ferruginous on the upper; petiole 5 to 9 lines long. The small axillary leaf when present is from 2 to 6 lines in length, and more or less pectioled. Peduncle normally terminal, about an inch long; ~~near~~ the

flowers rather few and racemose,  
corolla half an inch in diameter  
when fully developed and expanded,  
strongly plaited, probably  
whitish. ~~Stamens~~ Filaments in the  
specimens bellate-mucose, fully  
half the length of the oblong  
and taper-pointed anthers. Ovary  
hairy; style slender.

Solanum Sandwicense, <sup>S. Arn.</sup> Hook.

S. pruticosum, inermis; foliis sub-  
longe petiolatis ovatis (basi ob-  
tusa vel rotundata) integerrimis  
undulatis vel ~~sinnatis~~ angula-  
to-sinuatis supra pube stellu-  
lata minuta parca delapsa  
glabratis subtus ramis floribus-  
que cano- vel ochraceo-tomen-



tosis; cymis pedunculatis plu-  
rifloris ~~erigatis~~ demum lat-  
eralibus; pedicellis gracilibus;  
calycis lobis subulatis corolla  
fere 5-partita (segmentis aestiva-  
tione valde induplicatis, evolutis  
ovalibus obtusis) 3-4-plo bre-  
viribus; antheris oblongis ar-  
curatis apice subattenuatis, po-  
ris apicalibus. Indit in densum  
to tenuiore minus incano, et  
in var.? infra dicta crassiore  
~~ferugineo~~ purpureo.

Solanum Sandwicense, Hook. &  
Arn. Bot. Beech. Voy. p. 92.  
S. Woaense, et var. eroso-cran-  
ulatum, Dunal in Sb. Prodr.  
11, p. 269.

Var.  $\beta$ ? Kavaense: foliis ovato-  
oblongis magis acuminatis,

tomento crassiere furfuraceo;  
calycis lobis ~~subulato~~ - setaeo  
angustissimis.

Hab. Oahu, Sandrich Is-  
lands, on the mountains, frequent  
at the elevation of 1500 feet;  
found by nearly all the collectors.  
Var. B? On the leeward verge of  
the tabular summit of Kanai,  
at the elevation of about 3700  
feet.

A shrub, about six feet high,  
variable in foliage, ~~and but not~~  
but pretty well marked; the fully  
expanded <sup>"bluish"</sup> corolla almost an inch  
in diameter, the globose berries a-  
bout half an inch in diameter;  
the leaves varying from two to 6  
inches in length, sometimes the  
adult ones merely greyish - hoary  
underneath, but mostly whitened,

and with a fulvous or ochraceous hue, with a ~~close and~~ fine and closely appressed stellular tomentum. The single and imperfect specimen from Kauai, regarded as a variety, may prove distinct, but it will more probably be ~~found to merge~~<sup>traced</sup> into the present species.

### 3. Solanum incompletum, Donal.

S. frutescens, subtomentosum, aculeis igneis validis aut paucissimis aut numerosis (praecipue foliariis rarissime caulinis) armatum; foliis <sup>longe petiolatis</sup> ovatis oblongisve sinuatis vel subpinnatifidis (lobis brevibus obtusissimis) supra stellulato-puberulis subtus cum inflorescentia fulvo- seu ochra-



ceo-tomentosis; pedunculis later-  
alibus brevissimis plurifloris; caly-  
cis lobis brevibus obtusis; corolla  
profunde 5-fida (alba?), segmen-  
tis oblongis; antheris lineari-  
oblongis arcuatis sursum vix  
attenuatis, poris apicalibus ma-  
jusculis; bacis globosis parvis.

Solanum incompletum, Don-  
al in Ob. Prodr. 11, p. 311.

Stat. Hawaii, Sandrich Island,  
Nelson (without flowers or fruit), Re-  
my, no. 451 (a very aculeate form,  
in flower), and fruiting specimens  
in the collection of the Expedition.

Apparently only a foot or two  
in height and woody only towards  
the base. The prickles in our spe-  
cimens few and only on the leaves,  
in Remy's abundant on the leaves

petioles, pedicels, and calyx; they are pretty stout, straight, flattish, reddish, and 2 or 3 lines in length. Leaves  $1\frac{1}{2}$  to  $2\frac{1}{2}$  inches long, and with petioles of half an inch or over an inch in length, mostly obtuse at both ends, rather oblong or oval than ovate, and rarely showing any tendency to become cordate. Peduncles 3 to 6 lines long, inflorescence short, subracemose or bipid. Fructiferous pedicels half an inch long. Lobes of the calyx short-oblong or ovate. Corolla 3 or 4 lines long, apparently white, sparsely stellate-hairy externally. Filaments almost as long as the anthers; which are a line and a half in length, <sup>very little</sup> ~~scarcely at all~~ narrowed upwards, the pores occupying the whole apex of the cells,

and looking upward. Berries half  
an inch in diameter, or smaller.

Having been collected in Cook's  
• Voyage, this is in all probability  
indigenous to Hawaii. I do  
not identify it with any other of  
the numerous species of the group to  
which Dunal referred it, and by  
the foliage, apparently correctly.

## 2. Lycium, Lin.

### 1. Lycium Sandwicense, Sp. Nov.

L. inerme, glabrum; ramis rigidis;  
foliis subcarnosis spatulatis ob-  
tusissimis ~~ex~~ basi attenuatis vix pe-  
tiolatis plerisque fasciculatis; pe-  
dicellis solitariis folio brevioribus;  
floribus tetrameris; calycis brevi-  
ter 4-fido lobis late triangularibus



tubum corollae adaequantibus;  
~~lobis~~ corollae lobis tubo longi-  
oribus patentissimis; filamen-  
tis basi glaberrimis; bacca  
globosa.

Stat. Oahu, Sandwich Isl-  
ands, "on the barren coast - crater  
called Diamond Hill, near Hono-  
lulu.

Although <sup>found</sup> ~~collected~~ so near  
Honolulu, in the district visited  
by so many naturalists, this  
Lycium ~~has~~ occurs in no other  
collection that I know of. Dr.  
Pickering, whose judgment in this  
regard is critical, records it as an  
undoubted native; and indeed it does  
not accord with any one of Mr.  
Miers' sixty nine described spe-  
cies, so that I am obliged to treat  
it as new. Its peculiarities are

its fleshy leaves, as if ~~it grew~~  
growing in the vicinity of salt  
water, and its tetramerous flowers,  
with the corolla so deeply cleft  
that the species falls ~~decidedly~~  
into Miers' section Macrocope,  
the four lobes being larger  
than the tube. Otherwise its  
affinities appear to be with L.  
vulgare. But there is no hairi-  
ness at all at the base of the fila-  
ments; these are either glabrous through-  
out, or with some very delicate pu-  
bescence near the middle. Leaves  
about an inch long, and 3 lines wide  
near the rounded apex, thence  
narrowing gradually to the slender  
~~and nearly so~~ base, ~~nearly sessile~~  
not distinctly petioled, veinless, ex-  
cept the faint midrib. Pedicels 4  
to 6 lines long. Calyx  $1\frac{1}{2}$  to 2 lines  
long, the lobes a little shorter than

the tube. Lobes of the glabrous  
corolla 3 lines long, oval, retic-  
ulate-veiny. Berry 4 or 5 lines in  
diameter, "saline to the taste,  
but edible."

*Quercus* H.  
*suberifera* L.



3. *Aspidosiphon*, Sw. Gen.

Calyx campanulatus, 4-dentatus  
vel subbifidus, immutatus.

Corolla breviter hyprocaterimor-  
pha, limbo quadripartito, lobis  
ovatis activatione <sup>valvato-induplicatis</sup> ~~plicato-val-~~

~~atis~~. Anthera 4 sub fauce  
insertae, sessiles, lineares, in-

appendiculatae, loculis intror-  
sum longitudinaliter dehis-  
centibus. Discus hypogynus

nullus? Ovarium globosum,  
estipitatum, biloculare, loc-

ulis <sup>pluri</sup> ~~multis~~ ovulatis; stylus  
breviusculus; stigma bifidum

bilobum; ovula subcampylo-  
trypsa. Bacca <sup>(vix succosa?)</sup> forte siliisicca,

calyce supulta.

Semina ~~plurima~~ subreniformia,  
majuscula. — Arbores vel fruti-

cus ~~Cestroides~~ Cestri sen Lyci-  
facie, Sandwicensis, foliis <sup>altissimis</sup> integerrimis.

These plants are named and described from very incomplete as well as scanty materials, in the hope that they may elicit more perfect materials which may perhaps exist in some European herbaria, or ~~may direct attention~~ that they may attract attention at the Sandwich Islands. Their aspect is rather that of Cestrum, but I know not to what genus they are most allied related. The mature seeds are unknown; from the shape of unripe ones I suspect the embryo to be curved.

1. Nothocestrum latifolium. Sp. Nov.

N. foliis subpuberulis late ovalibus seu ovatis obtusis; corolla  
extus subsericea, tubo calyce  
<sup>bracte</sup>  
~~campanulato~~ duplo longiore;  
bacca globosa.

Hab. Oahu, Sandwich Islands,  
on the ridge of the Kaala Moun=  
tains.

A shrub "about 12 feet high",  
with stout branchlets. Leaves mem=  
branaceous, about 2 inches long and  
1  $\frac{1}{4}$  to 1  $\frac{3}{4}$  inches wide, sometimes in=  
clining to obovate, rather acute at the  
base; petiole ~~5-6~~ 6 to 10 lines long.  
Pedicels fascicled in the axils of the  
upper leaves, few, 4 or 5 lines long.  
Calyx 3 lines long, with 4 narrow and  
acute teeth, or somewhat 2-cleft. Corolla  
white; its tube nearly half an



inch long, cylindrical; the lobes  
 ovate, spreading, their margins very  
 strongly induplicate and the  
 sinuses plaited, not half the  
 length of the tube. ~~Style~~  
 Anthers nearly included, almost  
 2 lines long. The forming fruit  
 enclosed in the calyx, which is  
 nearly conformed to it and scarcely  
 accrescent.

2. Nothocentrum longifolium,  
 (Sp. Nov.)

N. glabrum; foliis oblongo-lance-  
 olatis oblongisve basi attenu-  
 atis; pedunculis solitariis; calyce  
 obtuse 2-4-dentato longiusculo  
 campanulato; <sup>(immatura)</sup> bacca elongato-  
 oblonga.

Hab. Oahu, Sandwich Island,

on the mountains behind Honolulu, at the elevation of 1500 feet.

● Leaves 4 to 7 inches long, and about an inch and a half wide, thin and membranaceous, often with a blunt acumination. Pedicels 6 to 9 lines long. Corolla 4s, not seen. Immature seed somewhat reniform, the testa reticulated.

3. Nothocestrum breviflorum. Sp. Nov.

N. arborescens, fere glabrum; foliis anguste oblongis ellipticis; corolla tubo calycem 2-4-lobum vix superante.

Hab. Hawaii, Sandwich Island, "between the Great Crater and the upper base of Mouna Kea; rare."

This is recorded as "a tree,  
20 feet high, with the trunk 5  
inches in diameter, and the wood  
● greenish; habit of Solanum viridis;  
the flowers greenish, but small."  
Branchlets stout. Leaves  $2\frac{1}{2}$  to  
4 inches long, an inch or more  
in width, mostly obtuse at both  
ends, rather coriaceous in tex-  
ture, the primary veins 9 or 10  
pairs, ~~rather~~ somewhat conspicuous,  
almost transverse. Calyx  $4\frac{1}{2}$   
lines long, glabrous, 4-nerved,  
with broad and rather deep tooth  
or lobes. Corolla nearly as in  
N. latifolium, but shorter, only  
the outside of the lobes minutely  
~~silky~~ silky. Anthers slightly  
protruding from the throat of the  
corolla. Fruit not seen.



Ord. Scrophulariaceae.

The collection in this order  
affords <sup>only a single new species</sup> ~~nothing wholly new~~ and few  
~~little~~ of much interest. The  
following need only be <sup>mentioned</sup> ~~enumerated~~.

(from Madeira)  
Linaria spuria, Mill. } and L.  
Brunneri, Benth., from St. Jago,  
Cape de Verde Islands.

Scrophularia scorodoria, Linn. and  
S. racemosa, Linn., from Madeira.

Chaenostoma hispidum, Benth., picked  
up at Cape Town.

Lindenbergia philippensis, Benth.,  
at Manilla.

Beyrichia ocyroides, Cham. &  
Schlect., at Rio Janeiro.

Stemodia trifoliata, Reich. at  
Rio, and S. chilensis, Benth. at  
Valparaiso.

Curanga amara, Juss., at Cal-  
dera, Philippine Islands.

● Torenia parviflora, ~~from~~ <sup>at</sup> Rio  
Lanciro; an Indian species now  
naturalized in South America.

Bonnaya grandiflora, Sprung.,  
at Manila.

Sipthorpia peregrina, Linn., ~~and~~  
Digitalis purpurea, Linn., ~~at Madeira~~,  
and Veronica Nagatis, Linn., at  
Madeira.

Striga orbanchoides, Benth.,  
at St. Jago, Cape de Verde Island,  
on roots of Physalis.

Harveya Capensis, Hook., at  
the Cape of Good Hope.

Euphrasia speciosa, R. Br., at  
Sydney, New South Wales.

Euphrasia scabra, R. Br., the variety  
with pinnatifid leaves, E. arguta, R. Br.,  
from New South Wales.

Ord.    Scrophulariaceae.

The collection in this order  
~~presents~~ affords nothing new, and  
or of any special interest.

1. Schwenkia, Linn.

1. Schwenkia divaricata, Benth. in <sup>db.</sup> ~~db.~~

Hab. Brazil, in the vicinity of Rio  
Janeiro, where it was collected by  
Martius and Gardner.

2. Browallia, Linn.

1. Browallia grandiflora, Graham.

2. Browallia peduncularis, Benth. in <sup>db.</sup> ~~db.~~

Hab. Peru, in the vicinity of Lima  
and Obrajillo in the valley of Santa.

2. Brunfelsia, Swartz.

1. Brunfelsia capitata, Benth. in <sup>db.</sup> ~~db.~~  
2. Brunfelsia ramosissima, Benth. l. c.  
3. Brunfelsia Stoebeana, Benth. l. c.



Stat. Brazil, in the Organ  
mountains near Rio. Ornamen-  
tal ~~plants~~ shrubs; two of them  
● have already been figured, as  
species of Franciscea.

3. Schizanthus, Ruiz & Pav.

1. Schizanthus Hookeri, Gillies.

Stat. Chili; Andes above San-  
tiago; common; and well known  
also in ~~cult~~ the gardens.

4. Calceolaria, Linn.

1. Calceolaria scabiosifolia, Sims.
2. Calceolaria glandulosa, Poepp.
3. Calceolaria petiolaris<sup>ca</sup>, Cav.
4. Calceolaria integrifolia, Murr.
5. Calceolaria viscosissima, Lindl.

Hab. Chile; near Valparaiso or Santiago. Of the third species, above enumerated, every author but Sprengel has written the name petiolaris, which makes a decided misnomer, whereas the name petiolaris of Cavanilles is characteristic of the lower leaves. One result of the error has been the introduction of two needless synonyms, C. floribunda, Lindl., and C. connata, Hook.

6. Calceolaria chelidonioides, HBK.

7. Calceolaria pinnata, Linn.

8. Calceolaria lobata, Cav.

Hab. Peru; between Lima and Obrajillo; the last named above Obrajillo.

9. Calceolaria verticillata, Ruiz & Pav.

Hab. Peru, in the vicinity of Obrajillo. — The <sup>species of the</sup> Verticillata described by Ruiz and Pavon and by Cavanilles,

are not well discriminated and are probably to be reduced.

10. Calceolaria trifida, Ruiz & Pav.

Hab. Peru, at Obrajillo. To this, from the characters should belong not only C. glauca, Ruiz & Pav., but also C. terniflora, Cav.; but all, with C. angustiflora, Ruiz & Pav., may be forms of C. verticillata.

11. Calceolaria scabra, Ruiz & Pav.

Hab. Peru, in the valley of Cuzco, at Baños, ~~Baños~~ <sup>Baños</sup> vs. Bullnai, Ss.

12. Calceolaria bicolor, Ruiz & Pav.

Hab. Peru; "abounding in the environs of Obrajillo; corolla partly



yellow and partly white"; as figured  
in the Botanical Magazine.

13. Calceolaria deflexa, Ruiz & <sup>Pav.</sup>

Stat. Peru; in the valley of  
Canta, at ~~St~~ Baños, &c.

14. Calceolaria bartziefolia, Wedd.

Stat. Andes of Peru above Baños.  
Suffrutescent, a span or so high.  
So appropriate is the specific  
name of this species that we  
had so called it long before  
the appearance of the second vol-  
ume of Weddell's Chloris Andina,  
in which his C. bartziefolia of  
Bolivian Andes is described.

Judging from the published  
character, our plant is probably

of the same species.

15. Calceolaria Matthewsii, Benth.

Hab. High Andes of Peru,  
near Casa Barcha. Accords per-  
fectly with the plant of Matthews.

5. Alouzoa, Ruiz & Pav.

1. Alouzoa linearis, Ruiz & Pav.
2. Alouzoa incisefolia, Ruiz & Pav.
3. Alouzoa procumbens, Ruiz & Pav. }

Hab. Peru, at Obrajillo, except  
the second, which was collected at  
Chili in the vicinity of Valparaiso.  
The third is hardly a form of A. can-  
lialata.

6. Alectra, Thunb.

1. Alectra Brasiliensis, Benth.

Stat. Brazil, near Rio Janeiro;  
a common South American plant.

7. Mimulus, Linn.

1. Mimulus luteus, Linn.

2. Mimulus parviflorus, Lindl.

Stat. ~~Andes of~~ Chili near Santi-  
ago; a hairy form of the latter. Also  
a smooth form at Obrajillo, Peru.

8. Limnophila, R. Br.

1. Limnophila Menthastrum, Benth.

2. Limnophila serrata, Gardich.

Stat. ~~Traja Islands; and the latter~~



Stat. South-sea Islands: the former at the Feejee and Samoan Islands; the latter at the Feejee and Society Islands.

9. Sterpestis, Gartn.

1. Sterpestis stricta, Schröd.

2. Sterpestis lanigera, Cham. & Schlecht.

Stat. Brazil, in the vicinity of Rio Janeiro; where they are common plants.

3. Sterpestis Monniera, H.B.K.

Stat. Rio Janeiro, Brazil, Callao, Peru. Sandwich Islands. Manilla. Widely distributed over the warmer parts of the world.

10. Gratiola, Lin.

1. Gratiola Peruviana, Lin.

Stat. Peru, in the vicinity of Obajillo. Apparently not met with in Chili or North Patagonia, where it is often collected.

2. Gratiola pedunculata, R. Br.

3. Gratiola pubescens, R. Br.

Stat. New South Wales, at Hunter's River and Wollongong. The former much resembling our G. Virginiana; the latter close to G. Peruviana.

11. Nandellia, Lin.

1. Nandellia crustacea, Benth.

Stat. Leejee, Society, Samoa, and

Philippine Islands; also Rio  
Janeiro, where it is <sup>an</sup> introduced plant.

2. Nandellia scabra, Benth.

Stat. Philippine Islands, near  
Manilla; an imperfect specimen.

12. Limosella, Linn.

1. Limosella tenuifolia, Nutt.

Stat. Chili, in the vicinity of  
Valparaiso. ~~also seen at Rio Negro, & Patagonia.~~ - Upon all the evidence  
it can hardly be doubted that the  
plant of the ~~American~~ New World  
is a variety of L. aquatica; but I  
have no American specimen with  
such leaves as those of the European  
plant.



13. Capraria, Lin.

1. Capraria Peruviana, Tenill.

Stat. Peru, in the exiccated bed  
of the Rimac at Lima.

2. Capraria calycina, Sp. Nov.

C. glabra, humilis; foliis lanceolatis  
sen linearibus paucidentatis, den-  
tibus grossis divaricatis ~~prosertim~~  
plennique <sup>vixus</sup> ~~supra~~ basin; floribus  
in axillis solitariis; calycis lacini-  
is foliaceis ~~rarius~~ ~~de~~ pedunculo  
aequilongis sen longioribus corollam  
adequantibus capsulam superan-  
tibus; staminibus 4; stigmati emar-  
ginato.

Stat. Hunter's River, New South  
Wales.

(with Mitrasacme polymorpha, &c.).

This was found among specimens of the Australian Collection. The only ground of suspicion as to the habitat is that all the ~~known~~ <sup>before known</sup> species are American. The scanty specimens belong to a plant about a foot high; the leaves in the principal specimen 2 to 3½ inches long and 3 or 4 lines wide, mostly entire except towards the base, where 3 or 4 sharp and salient laciniiform teeth usually beset each side; but a separate fragment ~~has~~ exhibits shorter and broader leaves more like those of C. biflora. From this species, moreover, it differs in its solitary and short-peduncled flowers, <sup>and its</sup> ~~with the~~ calyx twice the size, its divisions lanceolate, foliaceous, somewhat accrescent (in flower 4 lines, in fruit half an inch long), sometimes a

little denticulate. Corolla between  
campanulate and funnelform; the  
limb about equally 5-cleft,  
● the two superior lobes rather broader,  
all bearded within, as well as  
the throat. Stamens didynamous.  
Style filiform; stigma thickened,  
emarginate. Capsule (immature)  
like that of C. biflora.

14. Scyrraria, Linn.

1. Scyrraria dulcis, Linn.

Hab. Brazil, at Rio Janeiro,  
Peru, at Callao. Luzon, at  
Manilla. An American plant  
now found in almost every warm  
region



15. Veronica, Linm.

1. Veronica elliptica, Forst.

Hab. Orange Harbour, Tuegia, and  
Lord Auckland Islands. "Growing along  
the sea-shore, somewhat rare: a highly  
ornamental shrub."

2. Veronica odora, Hook. f.

Hab. Lord Auckland Islands: collected  
without flowers or fruit.

3. Veronica salicifolia, Forst.

4. Veronica ligustriifolia, A. Cunn.

5. Veronica diosmaefolia, A. Cunn.

6. Veronica elongata, Benth.

Hab. Bay of Islands, New Zealand.  
All the above species are well charac-

derived by Dr. Stoker.

7. Veronica plebeia, K. Br.

Stat. New South Wales, at Sydney,  
V.S.

16. Gurisia, Commers.

1. Gurisia Magellanica, Juss.
2. Gurisia breviflora, Benth.

Stat. Orange Harbour, Tuegia;  
the former in clefts of rocks on the  
coast; the latter on the mountains.

17. Gerardia, Linn.

1. Gerardia communis, Cham. & Schlecht.

Stat. Rio Negro, North Patagonia. An  
insignificant species of this fine genus. None of the  
Brazilian or Peruvian species occur in the

collection.

18. Castilleja, Linm.f.

1. Castilleja fissifolia, Linm.f. var.  
pumila, Medd.

(above Baños, and  
Itab. Andes of Peru,) in the  
environs of Casa Blanca and Alpa-  
marca.

The specimens are mostly of  
the high alpine variety figured by  
Medd as C. pumila (C. nubi-  
gena B.? pumila, Benth. in Db.),  
which in the latter-press he has  
reduced, along with five or six other  
supposed species, to the polymorphous  
C. fissifolia of the younger Lin-  
naeus. A specimen from Alpa-  
marca, only two inches high, has  
very short and proportionally broad, less  
lobed leaves.



19. Orthocarpus, Nutt.

1. Orthocarpus australis, Benth.

• Hab. Peru, at and above Obrajillo. With it an imperfect specimen of a plant, more like Castilleja, but not determinable.

20. Bartsia, Lin.

1. Bartsia subinclusa, Benth.

Hab. Andes of Peru above Obrajillo.

The specimens, all referable to the same species, will include B. elongata, Wedd. & Chl. And., and his variety pusilla. The corolla is either smoothish or ~~just~~ strongly pubescent on the galea and is more or less exserted. The anthers ~~are~~ bear a tuft of very long but not very

numerous hairs. It is probably the B. Peruviana of Walpers also (the oldest name) in the description of which the calyx is perhaps exaggerated.

2. Bartsia Meyeniana, Benth.?

Stat. Andes of Peru, ~~in the valley of Cuzco~~, above Baños,

This very well accords with this species as figured by Meddell, except that the corollas are perhaps a little larger, and the anthers are not at all bearded. The herbage is, as Meddell remarks, extremely viscous; indeed the lobes of the calyx, &c. are very strongly and densely glandular-hairy.

It may here be noted that B. pumila and B. orthocarpiflora, Benth. are wrongly credited to the Lintensian

Andes and to Jameson's collection.  
They are both from the Peruvian  
Andes, and were collected and sent to  
Sir Wm Hooker by Mr. McLean.

3. Bartsia densiflora, Benth.

Stat. Andes of Peru, near Baños,

The specimens, which are cer-  
tainly of this species, <sup>(in some cases)</sup> have the spike  
even more loosely-flowered than  
those of Gay mentioned by Wed-  
dell; so that the name is far  
from characteristic.



Ord.      Myoporinae.

● The group is probably to be hereafter included in Verbenaceae, along with Selaginia and Phryma, all together forming one well-marked and easily recognizable order.

Nesogenes, A. B. B., founded on an Oceanic plant, which was doubtfully referred to Myoporum, but has nothing in common with that genus, is here referred to Verbenaceae.

In his ordinal character of Myoporaceae, Alphonse De Candolle (Prodr. 11, p. 701) states that the fifth stamens is always and wholly absent, "absque vestigio quinti superioris," - in this overlooking or disregarding Brown's character, "quandoque ru-

diamentum quinti, vario pollini =  
feri" (Prov. Fl. Nov. Hill. p. 514).

It may be clearly made out that  
● Brown here refers to ~~the~~ genus  
Myoporum, and I suspect that  
he had ~~the~~<sup>a</sup> Sandwich Island rep-  
resentative of this group in view,  
in which the stamens are really  
isomorphic with the lobes of the  
corolla in all the flowers I am  
able to examine.

1. Myoporum, Banks & Soland.

1. Myoporus latum, Forst.

Stat. New Zealand, at the  
Bay of Islands. - Dr. Hooker's  
~~remark~~ character "stamens  
five" ~~under the~~ in the Flora  
of New Zealand, under the genus.

is an evident Lappus perenne,  
The putamen in the fruits exam-  
ined is three-celled and three  
● seeded; the ovary, as in the  
single one examined by De-  
Candolle, trilocular, and moreover  
with no ~~appearance~~ vestige of a  
fourth cell, and with only a  
single ovule in each cell.

This militates against De Candolle's  
primary division of the genera  
founded on the number of ovules  
to each carpel, and also against  
~~the~~<sup>his</sup> genus Polycœlium (Penta-  
cœlium, Rucc.)

2. Myosorum montanum, R. Br.

Hab. New South Wales, at  
Hunter's River. In fruit only.



3. Myoporum (Polycælium) Sandwicense

M. glabrum; foliis oblongo-lanceo-  
latis acutissime vel tenuiter  
acuminatis integerrimis, in-  
ferioribusve nunc pl. m. serru-  
latis; fasciculis 3-8-floris; pedi-  
cellis petiolum subaequantibus;  
corolla late campanulata ad  
medium usque 5-fida; stamini-  
bus 5; drupa 4-8-loculari. Ludit  
floribus hexameris hexandris, foliis  
2-3-pollicaribus angustis vel 3-5-pollicaribus mul-  
to latioribus.

Myoporum tuncifolium, Hook. &  
Arn. Bot. Beech. Voy. p. 93,  
vix Hart. et R. Br.

Polycælium Sandwicense, A. DC.  
Prodr. 11, p. 706.

Prinastrum cauliflorum, Nutt. in  
Hort. Hook.

14th, Sandwich Island, Menzies,  
Beechey, Gaudichaud, Antall, Dryas,  
Antall, Kerry (no. 461, 462, 463). &c.

● In our collection the narrow-leaved form from Oahu and near the coast on Hawaii, broad-leaved forms from Hawaii, ascending Mouna Roa and <sup>especially</sup> Mouna Kea ~~is to~~ into the pastoral region at the elevation of 7000 or 7200 feet; and <sup>an</sup> intermediate form from the mountains of Kailai.

One form is recorded as "a tree fifty feet high" (but nothing is said of its wood, which, according to Bart. <sup>on the authority of Menzies,</sup> Beechey, has the fragrance of Sandalwood and is exported <sup>as such</sup> to China), another is said to be "a decumbent shrub." All appear to be forms of one variable species. The narrowest leaves are 4 to 6 lines wide, much attenuated at each end; the ~~largest~~ largest, from an inch to fully an inch and a half wide, much less tapering at the apex,

but tipped, like the others, with a  
narrow, cuspidate acumination,  
some of the lower leaves in all  
● the forms more or less serrulate  
with rather sparse appressed teeth,  
~~Pedicels~~ either almost veinless or  
obscurely veined. Pedicels 3 to 5  
lines long, acutely angled. Sepals  
ovate-lanceolate, acute or acuminate,  
about the length of the tube of the  
corolla. Corolla (<sup>purplish</sup> ~~white~~) very open-  
campanulate, cleft to or beyond the  
middle, regular, the lobes broadly  
ovate or roundish, nearly alike, more  
or less pubescent punctate. The corol-  
la is only 3 or 4 lines long, with a  
breadth when expanded of about 5  
lines. Stamens in all the flow-  
ers examined as many as the lobes  
of the corolla (five, or occasionally  
six), all antheriferous and nearly  
alike, two of ~~them~~ them usually a



larger or with larger anthers than the rest. The whole fabric of the blossom is that of Mysoporum,

● except the ovary, which is from 5-celled to 8-celled, with a single <sup>anatropous</sup> ovule suspended from the summit of each cell. Drupe <sup>black</sup> of the size of a pea, pointed with the base of the style; Sarcocarp rather abundant; Putamen bony, at the base often with as many angles as there are cells; of these sometimes the whole number, as many as 7 or 8, remain in the fruit, while sometimes only two, three, or four are perfected. Seed cylindraceous or cylindrical; albumen thin or sometimes ~~more~~ wanting.

Embryo cylindrical, the cotyledons ~~about as long~~ as long as the radicle,

The interesting fact that this species has the stamens isomorphic with the lobes of the corolla had escaped the notice of preceding observers, except perhaps of ~~Mr.~~ Brown, who (as remarked above) was aware that <sup>(this was the case in</sup> some Myosporum, probably in this. This character along with the increase in the ~~cells~~ number of the cells of the ovary, would fully warrant the establishment of a separate genus. But the ~~fifth~~ fifth stamen is wanting in Myosporum (Pentacœlium) boottoides of Japan, and in the allied M. chinense, and the former species sometimes has the ovary only 4-celled (unless, indeed, there is a lappus pence in Ruccarini's detailed description; while, on the other hand one of the original species of Myosporum has a trilocular and triovulate ~~ovary~~

ovary. The habit being wholly the same, and other distinctions ~~etc~~ altogether wanting, I must conclude that Pentacœlium, Rucc. ~~f.~~, and Polycœlium (the latter restricted to the Sandwichian species, and characterised accordingly) are better regarded as mere sections of Myosporum.

Ord. Selaginæ.

Selago corymbosa, Linn., S. fasciculata, Linn., and S. spuria, Linn., three common species, were picked up at the Cape of Good Hope, in the vicinity of Cape Town.



1

2

3

4

Ord.

Gesneriaceae.

1. Gesneria, Linna., Mart.

1. Gesneria (Isoloma) Douglasii, <sup>Lin. St.</sup>

Gesneria Douglasii, Lin. St. Bot. Rep.

t. 1110; Lodd. Bot. Cab. 1939; Mart.

Nov. Gen. Sp. 3, t. 215 (G. maculata  
in ic.); Hook. Bot. Mag. t. 3612,

G. verticillata, Hook. Bot. Mag. t.  
2776, non Cav.

Stat. Brazil; in the Organ Mountains near Rio Janeiro. The specimen agreeing with the figure by Martius in exhibiting only opposite leaves; the uppermost pair reduced to small bracts, so that the inflorescence is long-peduncled and naked.

2. Gesneria (Isoloma) salviaefolia, Gardn.

Gesneria salviaefolia, Gardn. in Lond.  
Jour. Bot. 4, p. 129.

Stat. Brazil, in the vicinity of  
Rio Janeiro. A fruiting specimen.

3. Gesneria (Corytholoma) latifolia, Mart.

Stat. Brazil, near Rio Janeiro;  
the variety Gaudichandi, DC.

4. Gesneria (Corytholoma) bulbosa, Ker.

Stat. Brazil, on the Corcado  
and Organ Mountains; just the  
form figured in Bot. Mag. 7, 3041;  
also a very large leaved, tomentose-



Hirsute variety, nearly the t. 3886,  
Bot. Mag. (G. bulbosa S. Merckii,  
Klotzsch, Walp. Repert. 2, p. 717),  
but the pedicels, calyx, &c. still  
more hairy, - apparently hardly  
of this polymorphous species.

## 2. Gloxinia, L'Her.

### 1. Gloxinia (Simningia) Stelleri, Mart.

Hab. Brazil, in the vicinity of  
Rio Janeiro.

The lower surface of the leaves  
and the stem<sup>ls.</sup> are strigulose-pubescent,  
and the lobes of the ample calyx  
are often toothed or denticulate.

3. Besleria, Plum.

1. Besleria umbrosa, Mart.

Stub. Brazil, in the vicinity of  
Rio Janeiro.

4. Rhabdanthus, A. Cunn.

1. Rhabdanthus Solandri, A. Cunn.

Stub. Bay of Islands, New Zealand.  
~~Rhabdanthus~~  
The foliage exceedingly resembling that of  
Carpodetus serratus.

5. Cyrtandra, Forst.

\* Tahitenses et Samoenses.

1. Cyrtandra biflora, Forst.

C. arborea, pube purpurea crocea  
nascentium partium mox delapsa  
glaberrima; foliis <sup>(3-5-pollicaribus)</sup> ovato-~~seu~~  
~~longo~~ lanceolato. oblongis  
utrinque subacutis levibus  
subtus pallidis crenato-subser-  
ratis vel subintegerrimis; pedun-  
culis petiolum paullo <sup>excedentibus</sup> ~~superan-~~  
~~tibus~~ involucri albidum 2-  
caducum <sup>2-3-phyllum</sup> ~~que~~ <sup>2-3</sup> unifloro gerenti-  
bus"; calycis quinquefidi lobis  
lato-lanceolatis sensim acumi-  
natis; corolla bipollicari; fructu  
oblongo. Folia adulta ~~sicca~~ in secco



chartacea, venis in pagina infe-  
rioris albida perspicuis at vis  
prominulis.

Cyrtandra biflora, J. R. Forst.  
Char. Gen. p. 5, t. 3; Vahl,  
Symb. 2, p. 1; Guillem. Zeph.  
Tait. p. 41, ubi descr. Forst.  
Besleria biflora, G. Forst. Fl.  
Ins. Austr. p. 43. 224.  
Cyrtandra glabra, Gaertn. Fruct. 3, p. 234, t.

Itab. Tahiti, Society Island,  
and apparently also from <sup>Outrigger</sup> the Samo-  
an Islands, unless there has been  
transposition of specimens.

The above character is made  
up from <sup>(imperfect)</sup> specimens without flowers,  
from notes upon Forster's specimen  
in the British Museum, ~~and~~ from  
Forster's figure, and from his detailed  
description ~~of~~ printed in the Zephy-  
ritis Taitensis. Vahl evidently

had an authentic specimen  
in view. I do not cite Hooker  
and Knott, Bot. Beechey, p. 67,  
● because "calyce pubescenti-  
mentoso" is there introduced into  
the character, nor DeCandolle, for  
a similar reason. Both must have  
one of the following Tahitian species  
more or less in view. Fuller ma-  
terials are needed to determine  
whether the ~~following~~ next species  
is sufficiently distinct from C.  
biflora, or whether the Samoan  
specimens <sup>(above mentioned)</sup> really belong to the  
latter.

(Hab. Sp. Mv. Hab.)

2. Cyrtandra pulchella, Rich in

● C. "pruticosa, tripedalis," glaber-  
rima; foliis oblongo-lanceolatis  
(5-9-pollicaribus) subfalcatis basi  
subcuneata ~~in~~ <sup>in</sup>aequilateralibus  
versus apicem repando-crenatis  
supra nitidis subtus pallidis;  
pedunculis folio paullo brevior-  
ibus 7-9-floris; "bracteis latis" ca-  
ducis; calycis coriacei breviter  
(<sup>in</sup>aequaliter) quinquefidi lobis ovatis ob-  
tusis; corolla bipollicari; ovario  
elongato.

Hab. Tutuila, Samoan Islands,  
on the mountain ridge, at the eleva-  
tion of 1800 feet.

This is, of all the species I know  
most allied to the original C. biflora;  
but the characters appear nearly to



distinguish it. Peduncles 4 or 5 inches long up to the bifurcation much thicker than the petioles (which are only an inch long) and inclined to become subclavate and fistulous; pedicels, at least the alar ones, about an inch long. Calyx about 8 lines long, of thick texture, glabrous, two of its broad and blunt lobes half the length of the campanulate tube, the others with sinuses only half as deep. Corolla in size and shape agreeing very well with Foster's figure of that of *C. biflora*, as also the stamens. Anthers longer than the free portion of the filament, the cells equal and parallel. Ovary glabrous, the forming fruit siliquaform or lanceolate.

3. Cyrtandra induta, sp. nov.

C. arborescens; foliis inequalibus  
(altero 5-8, altero 8-14-pollicari  
~~ibus~~) ovatis seu ovali-oblongis  
acuminatis dentatis basi in-  
aequalatera sepius acutis pilis  
pluriseptatis superius hirsutis  
subtus cum petiolis pedun-  
culis ramisque junioribus mol-  
liter villosis; pedunculis peti-  
olo aequilongis plurifloris; cal-  
yce infundibuliformi pubes-  
cente, lobis lanceolatis acu-  
minatis <sup>tubo</sup> 2-3-plo brevioribus;  
(corolla bipollicari;  
p<sup>ro</sup> fructu immaturo elongato-ob-  
longo basi attenuato quasi  
stipitato).

Hbk. & Kun. ? &  
Cyrtandra biflora [Dc. Prodr.  
9, p. 280, pro parte ?

Stat. Tahiti, in the moun-  
tains, coll. by Prof. Dana, at the  
elevation of 2000 or 3000 feet. A  
● ~~somewhat glabrate~~ less pubes-  
cent state was collected by M.  
Pancher, said to be very common  
in moist valleys; and Moerenhout's  
plant seen by DeCandolle may  
be the same.

This species does not appear  
in Dr. Pickering's list; <sup>as</sup> the two he  
mentions as "possibly distinct" seem-  
ingly belong to the following. The  
specimen of our collection has the  
ample and thinish leaves very  
downy; that of Pancher preserves  
the down of the lower surface, but  
it is more appressed and implexed, or  
in other words tomentose, and ~~per-~~  
nigrescens instead of fulvous. The  
calyx ~~when~~ full grown is almost  
an inch and a half long, acute



at the base, gradually widening upwards, the sinus of the two ~~lower lobes~~ anterior lobes as usual, much deeper than of the three posterior ones, the former lobes scarcely half, ~~the~~ and the latter only a quarter of the length of the tube. Corolla in no fit state for investigation, but as large as in C. biflora, and glabrous. The forming fruit nearly an inch and a half long, including the attenuate base.

The species appears to be a very well-marked one, even if the pubescence be variable.

4. Cyrtandra Tahitensis, Nich in  
Hub. Sp. Nov.

C. fruticosa, "8-10-pedalis", pu-  
berula vel glabella, partibus  
novellis sericeo pube minuta  
sericea subferugineis; foliis  
subaequalibus ovatis seu ovato-  
oblongis acutis vel acumina-  
tis subserratis (6-12-pollicaribus),  
adultis supra hirtulo scabri-  
dis subtus ad costas, <sup>prominulas</sup> venulas =  
que puberulis; pedunculis peti-  
olo 3-4-plo longioribus plu-  
rifloris; calyce campanulato  <sup>brevi</sup>  
ad medium 5-fido, lobis ovato-acu-  
minatis; corolla sesquipollicari,  
tubo gracili; fructu immature  
elongato-oblongo haud basi  
attenuato.

Hub. Tahiti, in the forest.  
One specimen is ticketed Samoa,

perhaps by some transposition.

~~This~~  
Although the materials of  
the several specimens are rather  
incomplete and fragmentary, the  
species is evidently ~~wholly~~ quite  
distinct from the preceding and  
from C. biflora. It is one of those  
species which by the elongated ~~berry~~  
~~fruit~~ (bacca siliquaeformis) would  
seem to approach Blume's Whitia  
; but the cells of the anther are  
strictly parallel. The leaves  
resemble those of the following  
species, but are scarcely whitish  
underneath. Petioles, <sup>Slender,</sup> an inch or  
an inch and a half long. Peduncles  
often thickish, 3 to 6 inches long;  
~~app~~ the flowers apparently rather  
numerous, at least the cymes are  
sometimes three or four times dichot-



mons. Corolla white, its tube  
an inch long, narrow and  
cylindrical. The forming fruit  
an inch long, narrow, the  
limb about an inch in diameter,  
stigma 2-lobed. Ovary glabrous.

5. Cyrtandra Samoensis, Sp. Nov.

C. frutescens, novellis partibus <sup>(minutim)</sup> fer-  
rugineo-vel fulvo-pubescenti-  
bus; foliis ovatis ovalibusque (6-  
12-pollicaribus) aequalibus utrin-  
que <sup>saepe</sup> acutis vel subacuminatis sub-  
dentatis vel fere integerrimis, adul-  
tis supra glabratis subtus albidis  
ad costas <sup>prominulas</sup> venulasque pubescentibus,  
petiolo (sesqui-quadrupollicari)  
cymis plurifloris brevipedunculatis  
bis ~~terre~~ terre longioribus;

calyce tenuiter pubescente a  
basi 5-(-6-) partito, segmentis  
lato-lanceolatis corolla semipollin-  
cari paullo brevior; fructu brevi-  
ter ovoido.

Hub. Tutuil<sup>Savaii,</sup>a and Manua,  
of the Samoan or Navigators'  
Islands, common on the coast. A  
specimen is ticketed Tahiti, but  
probably by a transposition of  
labels.

This occurs in the collection under  
various forms, which, however, all  
accord in their essential char-  
acters. The pubescence is all fine  
and appressed. The leaves, as usual,  
are more or less oblique or inequilat-  
eral at the base, sometimes rather  
strongly so; some are quite entire,  
others irregularly more or less serrate.  
Peduncles half an inch to an inch

in length; the cyme also short  
(an inch long), corymbose or umbel-  
like; 9-15-flowered; pedicels slender,  
● ~~Flowers~~ softly ferruginous - or  
fulvous-pubescent, as is the rest of  
the inflorescence. Calyx 4 or 5 lines  
long, about one third shorter than  
the corolla, sometimes 6-parted, di-  
vided to the very base. Corolla with  
a rather broad tube and short limb, <sup>glabrous.</sup>  
Anthers, 5, of the genus. Rudiments  
of three stamens present as small  
sterile filaments. Stigma 2-lobed.  
Ovary glabrous. Immature fruit  
short-oval, half an inch or less  
in length.

This should be compared with C. lati-  
folia, Benth. - a Feejee species not yet  
identified in later collections; but that has  
the peduncles 2 or 3 inches, the petiole only  
an inch long, and is more tomentose.  
Forster's C. cymosa also has peduncles larger than the  
petiole.



b. Cyrtandra Richii, Sp. Nov.

C. ~~crass~~ <sup>crasso</sup> glabra; caule fruticoso  
● 10-15-pedali; foliis amplis (1-2-  
pedalibus) membranaceis lanceo-  
lato-oblongis basi attenuatis sub-  
integerrimis utrinque viridibus;  
cymis subsessilibus fasciculiformi-  
bus; ~~corolla viridula~~ <sup>petiolo</sup>  
brevioribus; "corolla viridula" <sup>suburceolata</sup> fructu  
immatureo ovoido.

~~Har.~~ <sup>3</sup> labiosa;

Har. Savaii, one of the Samo-  
an Islands, in the deep interior  
forest.

This is recorded as "an upright,  
thick-stemmed shrub, ten to fifteen  
feet high," with long leaves: the  
stout petioles are 3 or 4 inches long,  
more than twice the length of the  
fasciculate inflorescence in ~~its~~

their axils in the solitary specimen. The corollas which are said to be "rather small, greenish, somewhat urceolate, if preserved collected, are not preserved, even the calyx having fallen from the fructified ovaries." <sup>"Perfect specimens too few."</sup> The fruit is evidently ovoid.

7. Cyrtandra labiosa, sp. nov.

C. glabra, precedenti affinis, sed foliis lato-lanceolatis multo  
minoribus (6-7-pollicaribus);  
"floribus majoribus; corolla alba  
eximie bilabiata."

Hab. Savaii, one of the Samoan Islands.

Foliage and vestiges of corollas remain in the collection. The corolla

appears to ~~have been~~ be short  
and broad, deeply bilabiate, the  
lips twice or thrice the length of  
the tube, the upper arching, the  
lower spreading.

8. Cyrtandra pogonantha, Sp. Nov.

C. frutescens; foliis amplis  
(pedulibus) utrinque acutis  
vel basi attenuatis, subintegerrimis <sup>viridibus</sup> glabris, membranaceis,  
nascentibus ferrugineo-pubescentibus;  
cymis petiolo brevioribus  
involueratis brevipedunculatis  
hirsutis; alabastris rostrato-acuminatis;  
corolla tubulosa breviter  
bilabiata extus pilis longis  
pluriseptatis insigniter barbata.



Hab. Savaii, one of the Samoan Islands, in the deep interior forest.

Incomplete as are the materials it is easy to characterize this remarkable species and to confirm Dr. Pickering's notes upon the fresh plant. The nascent parts are ferruginous-hairy or pubescent, but the adult leaves are glabrous, except some of the pubescence remaining on the midrib and veins, and some scattered slender hairs on the upper surface. Petioles  $1\frac{1}{2}$  or 2 inches long. "Flowers hairy, enclosed in a white, hairy involucre". The involucre appears to consist of two or three ovate-lanceolate bracts which are somewhat connate at the base, externally glabrate, internally perhaps whitish, and <sup>hyaline</sup> ~~resist~~, like the pedicels and calyx, with

rusty hairs. Calyx in the bud  
pursiform and rostrate, half an  
inch or more in length, in anthe-  
sis apparently splitting down one side  
to about the middle. Corolla  
an inch long, tubular, scarcely  
ampliate at the throat, bilabiate,  
the five lobes rather small, ovate  
and perhaps rather acute, their exterior  
face and most of the tube conspic-  
uously bearded with very long and  
stiff, tapering, many-jointed, whi-  
tish hairs. Stamens 5, of the  
genus. Anthers 2, exerted from  
the throat. Fruit unknown.

\* \* Vitienses.

9. Cyrtandra Milnei, Seem.

C. caule crasso; ramis petiolis  
costaque foliorum ~~ferugineo~~<sup>rufo</sup>-  
villosissimis, pilis longis multi-  
septatis superne, attenuatis; fo-  
liis <sup>(5-8-petiolantibus)</sup> ~~amplex~~ ovalibus utrinque  
acutis vel acuminatis ser-  
vatis pilosis; pedunculis brevissi-  
mis plurifloris; bracteis amplis; caly-  
ce pedicello longiore <sup>peraequaliter</sup> tubuloso) 5-  
dentato) <sup>persistente</sup> fructus ovatum in-  
cludente.

Cyrtandra Milnei, Seem. in  
Bonplandia, 9, p. 257, absq.  
char.

Hab. Ovalau, Feejee Islands, ac-  
cording to Dr. Pickering's memorandum.



Sandalwood Bay, according to Mr. Rich's ticket.

This well-characterized species was collected only in fruit. But as Dr. Seemann supplied me with a leaf only, his materials are perhaps ~~no more~~ not better than ours. In his, the shaggy ferrugineous hairs are <sup>somewhat</sup> ~~rather~~ more rigid than in ours, ~~or as it~~ The leaves appear to be equal in the pairs: petioles 3 or 4 inches long; the blade of twice that length and conspicuously veiny, hairy on both sides, especially on the veins. Corolla, &c. not seen. Calyx after flowering 7 to 10 lines long, cylindrical or tubular-cyathiform, glabrate, longer than the included fruit.

Sw.)

10. Cyrtandra dolichocarpa, Sp.)

● C. frutescens; ramis gracilibus, junioribus cum petiolis pedunculisque (unifloris?) pilis longis rufescentibus ~~pluri-~~ multiseptatis (modo C. Milnei <sup>subaequalibus</sup>) barbatis; foliis lanceo-lato-oblongis acuminatis denticulatis supra hispidulis <sup>subtus</sup> ~~supra~~ breviter fulvo-pubescentibus; calyce longe tubuloso puctu cylindrico siliquaeformi (sesqui-bipollicari) acuto  $\frac{1}{3}$  breviora sero deciduo.

Hab. Feejee Islands, at Sandwood or Mbuu Bay, Vanalevu.

A solitary specimen, in  
fruit only. It is evidently allied  
to the preceding species (of which also  
the corolla is unknown to us), the  
leaves being similar though nar-  
rower, smaller, and less shaggy,  
the long and many-jointed hairs  
quite the same, and the ~~remains~~ <sup>vestiges</sup>  
of a still longer tubular calyx  
(fully an inch in length)  
still persist upon one side of one  
fruit. The latter attains even an  
inch and a half in ~~fruit~~ length,  
while it is only 4 or 5 lines in diam-  
eter. (which other species approach),  
Excepting the elongation, it  
<sup>seemingly</sup> accords with that of other species  
of Cryptandra, i.e. it is a ~~dry~~  
corticate <sup>(and juicy)</sup> ~~and dry berry~~ probably  
rather fleshy when fresh, and indehis-  
cent. So that the anthers only  
are left to distinguish <sup>Blum's</sup> Whitea.



Seem. l.c.

11. Cystandra involucrata,

Stat. Ovolau, Feejee Islands.

A single and very incomplete specimen, which <sup>apparently</sup> accords with <sup>one of</sup> Dr. Seemann's, no. 279, except that the ferruginous involueral bracts have fallen. The leaves are resemble those of the preceding species, except that there are no long shaggy hairs on the petioles, &c. The calyx is rostrate in the bud, the lobes subulate from a broad base, and about the length of the ovoid-campanulate tube. But as ~~the~~ the specimen from Dr. Seemann does <sup>show</sup> not show the flowers, nor mine the <sup>show</sup> fruit (nor either the corolla) I ~~have~~ am unable completely to identify them, nor safely to frame a character.

12. Cyrtandra anthropophagorum, <sup>l.c.</sup> Seem.)

- C. frutescens, minutum fusco-pubescent; foliis oblongis acuminatis subserratis; pedunculis petiolo brevioribus paucifloris; pedicellis flore longioribus; calyce 5-fido, lobis subulato-lanceolatis corolla dimidio brevior<sup>ibus</sup>; fructu ovato-oblongo.

Stat. Ovalau, Feejee Islands.

The flower is described from scanty materials in our collection, the young fruit from that of Dr. Seemann. Leaves opposite and nearly similar, 3 to 5 inches long, minutely hairy above and tomentulose-pubescent beneath. Calyx 5-cleft quite to the middle, the

lobes spreading, Corolla half an inch long, straight, tubular-funnel form; the lobes short and spreading. Dr. Seemann's specimen is broader-leaved than ours; but the inflorescence, calyx, &c. are similar.

13. Cyrtandra Pritchardii, Seem. <sup>l.c.</sup>

Hab. Volau, Feejee Islands.

A glabrous species, of which Dr. Seemann's <sup>materials</sup> ~~specimens~~ are probably better than ours.

There are indications of as many species of Cyrtandra in the Feejees as are now known in the Sandwich Islands. Besides those above mentioned in the collection of the Exploring Expedition, Dr. Seemann enumerates his C. acutangula, C. Viti-



ensis, ~~B. undulata~~, B. coleoides,  
and B. ciliata. As far as can be  
judged from the imperfect materials  
● in my possession, none of these <sup>wholly</sup> agrees  
with one collected by Professor Harvey,  
nor with the two species (B. caly-  
cina and B. latifolia) already des-  
cribed by Mr. Benthame from the  
collection of Kinds. B. calycina  
is perhaps related to B. Nitensis of  
Seymour, which seems to have a  
tubular calyx, like that of B.  
Milnei.

~~Cystandrea Tahitensis et~~  
~~Samoensis.~~

In the collection from Luzon,  
in the mountains near Bantoc, is  
a specimen, too incomplete for deter-  
mination, of what seems to be an  
undescribed Cystandra, and also  
of a Rhynchotecum; and from  
the Majajai Mountains an As-  
chynanthus in similar condition.

\*\*\* Sandwicensis, fructu breve  
in C. paludosa ellipsoideo.

14. Cyrtandra cordifolia, Gand.

C. villosissima; foliis rotundo-ovatis  
cordatis, <sup>acuminatis</sup> argute dentatis supra  
hirsutis subtus calycibusque  
dense tomentoso-villosis sub-  
incanis; pedunculis plurifloris;  
calyce rotato <sup>fer</sup> angulato quin-  
quefido, <sup>ferè equali</sup> corollam <sup>sub</sup> aequantibus,  
lobis late ovatis acumin-  
atis; ovario cum stylo brevissimo  
villosa.

Cyrtandra cordifolia, Gand. Bot.  
Voy. Freyc. p. 446, t. 56; Hook.  
& Arn. Bot. Beech. p. 91; DC.  
Prodr. 9, p. 284.

Hab. Sandwich Islands; on the  
mountains behind Oahu, at the  
elevation of about 1500 feet.



Stem pubescent. Branches  
short, densely villous, as are the  
petioles, peduncles, pedicels. Lvs. with  
long <sup>and soft</sup> ~~long~~ widely spreading, somewhat  
ferrugineous, multi-articulated,  
~~soft~~ hairs. Petioles 3 to 5 inches  
long. Leaves 5 to 7 inches long,  
abruptly acuminate, cordate with a  
narrow, often closed sinus, finely  
dentate with very narrow and sharp  
teeth; densely fulvous-dun on un-  
derneath. Peduncles 12 to 18 lines  
long, ~~and~~ bearing a pair of fo-  
liaceous bracts and an umbellate  
cyme of from 3 to 9 flowers; the  
shaggy pedicels about an inch  
long. Calyx <sup>fully</sup> an inch in diam-  
eter when <sup>rotately</sup> expanded, thin, very  
villous on both surfaces. Corolla  
9 lines long, the tube very woolly  
outside towards the summit, the

short limb with five almost ~~equal~~  
equal rounded lobes. Rudiments  
of 3 sterile stamens present. Ovary  
and young fruit ovoid, hairy,  
pointed with a very short style,  
which is articulated just below  
the ~~tri~~<sup>bi</sup>-lamellate stigma.

Gaudichaud's plate pretty  
well represents this species, except  
that the villous ~~down~~ shaggy pre-  
sence is omitted, the leaves are  
not large enough, nor the rotate calyx  
expanded.

15. Cyrtandra platyphylla, Sp. Nov.

C. foliis rotundato-cordatis breve  
acuminatis argute denticula-  
tis supra hirsutulis subtus  
canescenti-pubescentibus, costis  
cum petiolis ramis calycibus-  
que pube feruginea villosis;  
pedunculis plurifloris; calyce  
~~alte~~ ~~quinquefido~~ inequaliter  
quinquefido, lobis lato-lanceo-  
latis corolla brevioribus; ovario  
cum stilo gracili glaberrimo.

Hab. Hawaii, Sandwich Islands;  
"in woods between Puna and Pahu-  
kuli", Brackenridge.

This new species much re-  
sembles the preceding, except in the  
particulars indicated in the diagnosis.  
The stem is said to be about 10 feet



high; the pubescence is similar but less shaggy and more ferrugineous; the leaves attain a greater amplitude, even to 8 or 9 inches in length and breadth, and are less deeply cordate; the lobes of the rather deeply cleft and not rotately expanded calyx are very much narrower (4 or 5 lines long, about a line and a half broad at their base); the corolla nearly an inch long, less hairy externally, with a rather distinctly bilabiate limb, the lobes larger; the ovoid-oblong ovary is perfectly glabrous, with a slender style as much as two lines in length above the articulation. Fertile ~~stamens~~ filaments longer than in *C. cordifolia*, strongly curved. Fruit globose.

16. Cyrtandra Pickeringii, sp. nov.

C. ferrugineo-villosa; foliis oblongo-  
lanceolatis utrinque acumi-  
natis subserulatis supra  
hirsutis subtus (prater costas  
villosas) canescenti-pubescenti-  
bus; pedunculis 3-5-floris; calyce  
crateriformi breviter subaequaliter  
breviter 4-5-loba corolla brevior,  
lobis late deltoideis.

Hab. Oahu, Sandwich Island,  
on the mountains behind Hono-  
lulu.

Only a single specimen was  
collected of this plant, which, if  
rightly referred to no. 16 of Dr. Pick-  
ering's printed memoranda, is "frequent  
on the mountains behind Honolulu,  
at the elevation of 1500 feet. I have

met with it in no other collection,  
<sup>young</sup>

The (branches, petioles, ~~and~~ inflorescence<sup>vs.</sup>) are shaggy with ~~few~~ dense, ferrugineous, multiarticulated hairs, much as in the preceding species. The leaves (often moderately unequal in the pair) are from 4 to 7 inches long by  $1\frac{1}{2}$  to 2 inches in width, conspicuously acuminate, and at the base tapering into a petiole of 6 to 18 lines in length, the pubescence nearly as in *C. platyphylla*, that of the lower surface soft and velvety, fulvous-carescent. Peduncles rather longer than the petioles; the fully developed pedicels an inch or less in length. Calyx sparsely ferrugineous-villous, amplicate-expanding in the manner of *C. cordifolia*, but apparently crateriform or even cyathiform,



rather than rotate, of the same  
herbaceo-membranaceous and veiny  
texture, only 3 to 4½ lines in length,  
<sup>much</sup> less deeply ~~as~~ lobed than in C.  
cordifolia, the lobes very broadly  
triangular. Corolla hairy externally,  
somewhat bilabiate, <sup>half an inch long,</sup> Ovary ovoid-  
fusiform, glabrous, tapering into  
a rather short and stout, sparsely  
hairy style.

Except for the calyx and the soft  
fulvous down of the lower face of  
the leaves, this might be taken for  
a variety of the following species.

17. Cyrtandra triflora, Gand.

C. glabrata vel primam ferru-  
gineo-hirsuta; foliis oblongis seu  
ellipticis utrinque acutis vel  
acuminatis ~~argute~~ serrulatis  
serratisve utrinque viridibus;  
pedunculis brevibus 3-5-floris; calyce  
subaequaliter quinquefido, lobis  
cylindraceo, lobis lato-lanceo-  
latis corolla brevioribus, -- ~~ff~~

Var. a, Gaudichandi; ramis foli-  
isque prater costam venasque  
paginae inferioris ferrugineo-pu-  
bescentes glabris; calycis lobis  
tubo aequilongis.

Cyrtandra triflora, Gand. Bot.  
Voy. Freyc. p. 447, t. 52; D. d. c.

Var. β, arguta; ramulis cum inflores-  
centia ferrugineo-hirsutis; foliis  
majoribus ovalibus caudato-

acuminatis crebre argutissime  
serratis hirsutulis; calycis  
(etiam ~~ad~~ fructiferi hirsuti)  
lobis tubo brevioribus.

Var. f. lysiosepala; calyce fere quin-  
quepartito; cat. praecedentis.

Stat. Sandwich Island; collected  
by Gardichand on Oahu; in our  
collection only from Hawaii, in the  
district of Kona. B. & R. in the  
deep mountain-forest of the same  
district ~~at~~

The specific name given by Gardichand is far from appropriate.  
The peduncles in our larger-leaved and  
more pubescent varieties bear five or  
more flowers, and in the glabrate  
form very commonly only two flow-  
ers. In the varieties B. & R. the



leaves are from 4 to 6 inches long,  
2 to 4 inches wide <sup>(very)</sup> closely beset  
with narrow and <sup>(very)</sup> sharp salient  
teeth, the petioles  $1\frac{1}{2}$  or 2 inches  
long. Corolla either pubescent  
or glabrous. Ovary glabrous.  
~~Style~~ Fruit globular.

18. Cyrtandra grandiflora, Gand.

C. foliis oblongis <sup>(sen ovatis)</sup> utrinque acu-  
minatis glabratis subintegerrimis  
glabratis subtus pallidis  
puberulis, Costa Venis petiolo-  
que pube brevissima ferrugineis;  
pedunculo 1-2-floro bracteis foli-  
aceis; calyce cylindrico subex-  
breviter quinquelobo hinc saepe  
profundius fissso corolla glabra  
paullo brevior.

Gyrtandra grandiflora, Gand.  
l.c. t. 55; Hook. & Arn. l.c.;  
Db. l.c.

G. Endlicheriana, Mus. in  
Rel. Meyer, p. 359, t. 10?

G. Kueckiana, Meyer, Riese;  
Walp. Rel. Meyer, l.c.?

Hab. Sandwich Islands; on  
the mountains behind Honolulu,  
Oahu.

The specimens, in poor condi-  
tion, furnish little additional  
information <sup>(relative to)</sup> about this species.  
The nascent leaves, peduncles, ca-  
lyx, &c. are ferruginous with a fine  
pubescence, which for the most part  
is caducous. The cylindrical calyx  
when well developed is an inch long;  
<sup>soon glabrous,</sup> its triangular-acuminate teeth or lobes  
only 3 lines long.

19. Cyrtandra paludosa, Gaud.

"suffruticosa"; ~~hirs.~~  
C. glabra; foliis oblongis sublan-  
ceolatisve utrinque acuminatis  
serratis subtus pallidis; pedun-  
culis brevissimis nudis 1-5-floris;  
calyce cylindraco-campanulato  
inequaliter quinquefido, lobis  
triangulari-acuminatis, ~~foris-~~  
anticis tubo aequilongis; corolla glabra;  
fructu olivaceoformi.

Cyrtandra paludosa, Gaud. l.c.;  
Hook. & Arn. Bot. Beech. Voy.  
p. 91.

Hab. Sandwich Islands; on the  
mountains behind Oahu, Honolulu, Oahu,  
~~on Hawaii,~~ between  
and in woods ~~near~~ the crater Lua  
Pele, ~~Hawaii~~, and Mouna Roa.



This is most related to C. grandiflora; but only the nascent leaves &c. are ferruginous-pubescent; the adult parts perfectly glabrous. The leaves are obtusely and often commonly rather strongly toothed, and the common peduncle only from one to three lines long, terminated by a pair of small scarious bracts and from one to five umbellate, slender pedicels, which are usually half an inch long. Calyx half an inch long. Corolla, as in C. gr. grandiflora with a rather ample limb. Ovary glabrous. Fruit oblong or elongated-oblong, 6 to 8 lines in length.

The stem of this species, according to Dr. Pickering's notes, is "sub-herbaceous, from 2 to 4 feet high", or "suffrutescent".

~~scribble~~

20. Cyrtandra Lessoniana, Gand.

C. foliis oblongis ~~seu ellipt~~ utrin-  
que saepius acuminatis den-  
ticulatis supra hirsutulis subtus  
~~ramisque pube~~ cum ramis  
~~et inf pedunculisque pube~~  
adpressa ferruginea sericeis;  
pedunculis elongatis 1-3-floris;  
bracteis lanceolatis; calyce 5-6-  
partito, lobis ovatis seu ovato-  
lanceolatis corolla extus sericeo-  
villosa brevioribus vel demum  
aqualibus; <sup>laxis</sup> fructu ovato.

Cyrtandra Lessoniana Gand. l.c. t. 54; Hook. & Arn.  
l.c.; DC. Prodr. 976, 284.

Var.  $\beta$ . Calycis lobis elongato-lan-  
ceolatis; corolla subglabrata.

Hab. Oahu, Sandwich Islands, on the  
mountains behind Honolulu, Var.  $\beta$ .  
Mountains West Maui.



The deeply-parted <sup>(divisions)</sup> lobes of the calyx are at first considerably shorter than the corolla, but they ~~are across~~ enlarge with age; at first silky <sup>villous</sup> and ferrugineous, when old they are glabrate. They are not always so broad as Gandichaud represents them, nor with such undulate-reflexed margins; sometimes they become merely broad-lanceolate; as in the variety from Maui <sup>they are</sup> still narrower. When narrow they are occasionally six in number. Peduncle with the pedicel  $1\frac{1}{2}$  to 2 inches <sup>sometimes there are the pedicels and flowers;</sup> long; the bracts 3 or 4 lines long. Corolla 9 lines long, the limb short. Fruit ovate, 9 lines in length.

white or greenish, as in all ~~these~~ these species.

21. Cyrtandra Garnottiana, Gaud.

C. foliis ellipticis vel obovatis utrinque saepius anguste acuminatis denticulatis supra hirsutulis subtus cum inflorescentia ramisque canescenti-velutinis; pedunculis gracilibus 3-5-floris; bracteis parvis; calyce campanulato subaequaliter quinquefido, lobis triangularibus tubo subaequilongis corolla extus hirsuta <sup>subdimidio</sup> brevioribus.

Cyrtandra Garnottiana, Gaud.

l.c. t. 53; Hook. & Arn. l.c.; Bl.  
Proc. 9, p. 284.

Hab. Oahu, Sandwich Island,  
on the mountains behind Honolulu.

This is one of the small-flowered species; the corolla being only 4 or <sup>5</sup> five lines long, and nearly twice the length of the calyx. The lower surface of the leaves is whitened with a very soft and fine, velvety down; that on the pubescence of the calyx is similar, but rather more villous. Peduncles about an inch long, shorter than the slender pectioles, the pedicels of nearly the equal length; bracts lanceolate or linear-subulate. The fruit ~~which~~ is figured by Gandichand as ovate.



22. Bystandra Macraei, Sp. Nov.

C. foliis lato-ovatis acuminatis  
denticulatis supra glabris subtus  
ramulisque novellis pruinoso-in-  
canis ad venis pubescentibus; pe-  
dunculis brevissimis <sup>fasciculatis</sup> cymoso-  
multifloris; calyce aequaliter quin-  
quepartito corolla pruinosa fruc-  
tique ovoideo multo brevior,  
lobis e basi lata lanceolatis.

Hab. Oahu, Sandwich Islands,  
Macrae, 1825, Gandichand, in the  
voyage of the Bonite: "at the <sup>on</sup> the moun-  
tains behind Honolulu," Brackenridge.

"A shrub, ten feet high, ac-  
cording to Dr. Pickering's notes: the  
branches in the specimens seem  
as if nearly herbaceous. They are  
stout, more or less quadrangular,  
glabrous, except the younger parts,

which are pruinose rather than puberulent, as is the whole inflorescence. Leaves 4 to 8 inches long, 3 to 6 inches wide, broadly ovate, with a rounded or sometimes a cuneately narrowed base, and <sup>the summit</sup> with a narrow acumination, minutely serrate, green and soon perfectly glabrous on the upper surface, the lower whitened with a ~~fine~~ <sup>persistent and dense</sup> pruinosity, the midrib, the numerous principal veins, and the veinlets pubescent; petiole  $1\frac{1}{2}$  to  $3\frac{1}{2}$  inches long. Peduncles at most a quarter or one half <sup>of</sup> an inch in length, or in the upper axils scarcely any, ~~for~~ many-flowered, or the ~~uppermost~~ later ones rather few-flowered; pedicels cymosely or fasciculately aggregated, 3 to 6 lines long; the bracts minute. Flowers very small for the genus, Calyx pruinose-canescent,

only a line and a half long, thickish, evidently valvate in aestivation, equally and deeply five parted, the divisions triangular-lanceolate, rather blunt. Corolla  $4\frac{1}{2}$  lines long, externally pubescent pubescent, cylindraceous-funnel-form, with short and apparently nearly equal, rounded lobes. Stamens not examined. Pistil of the genus. Fruit (immature) about 4 lines long, conical-ovoid or ellipsoidal, probably <sup>more or less</sup> fleshy.

The specimen in the collection is in fruit. The ~~flower~~ corolla is described from a solitary flower on a specimen from Macrae's collection. - The remaining known species of the Sandwich Islands, - not met with by our naturalists, but found by Gandich and at his second visit,



is C. Menziesii, one of the  
small-flowered sort; <sup>the characters are</sup> ~~may be char-~~  
<sup>appended.</sup> ~~acterized as follows.~~

23. Cystandra Menziesii, <sup>l.c. in not.</sup> Hook. & Arn.

C. subglabra; foliis quaternis (an  
semper?) oblongis seu lanceola-  
tis utrinque acuminatis sermula-  
tis; pedunculis petiolo brevioribus  
umbellato-plurifloris; calyce  
quinquepartito, lobis <sup>elongatis</sup> subulato-  
setaceis corollae <sup>paullo</sup> ~~fructu~~ <sup>um</sup> ~~que~~  
brevioribus.  
subaequantibus. (Flores vix semi-  
pollicares; calycis lobi  $\frac{1}{4}$ -pollic.  
~~ae~~ fructus fere C. Macraei.)

Ord. Bignoniaceae.

1. Bignonia, Tourn.

1. Bignonia corymbifera, Vahl

Stat. Brazil, in the vicinity of Rio Janeiro.

In flower only; the fruit still unknown. The foliage, &c. much resembling Lundia longa, <sup>DC.</sup> but the flowers smaller, and the anthers glabrous.

There are imperfect and undetermined specimens of three other species of this genus, or order, collected in the vicinity of Rio Janeiro.

2. Arrabidaea, DC.

1. Arrabidaea Agnus-Castus, DC.
2. Arrabidaea conjugata, Mart.

Stat. Brazil, in the vicinity of Rio Janeiro; in blossom.

3. Adenocalymna, Mart.

1. Adenocalymna marginatum, DC.
2. Adenocalymna nitidum, Mart.
3. Adenocalymna longiracemosum, Mart.

Stat. Brazil, in the Organ Mountains and near Rio Janeiro; all in flower only. The fruit, lately made known by Miss (in Ann. & Mag. Nat. Hist. ser. 3, 7) not collected.



4. Spathodea, Beaur.

1. Spathodea Cotto, Db.

Hab. Brazil, in the vicinity of  
Rio Janeiro: in flower.

5. Tecoma, Juss.

1. Tecoma speciosa, Db.

Hab. Brazil, near Rio Janeiro;  
in blossom.

2. Tecoma Guarume, Db.

Hab. Peru, from Yanga to the  
Andes.

The specimen is in fruit only, with  
the capsule (of the genus) linear, pointed,

compressed, seven inches long. Dr. Pickering notes it as "a shrub, five to twenty feet high, in foliage much like a rose; the flowers yellow. It is probably T. sambucifolia, Hook. Bot. Mic. 2, p. 229, not of W.B.K.

3. Tecoma australis, R. Br.

Hab. Sydney, New South Wales; in fruit. (Seeds of the genus.)

4. Tecoma jasminoides, Lindl.

Hab. Newington, New South Wales; in blossom.

6. Jacaranda, Juss.

1. Jacaranda tomentosa, R. Br.

2. Jacaranda Claysoniana, Basal.

Stat. Brazil, in the vicinity of Rio Janeiro; the former in flower; the latter with the filicoid foliage only.

7. Eccremocarpus,  Ruiz & Pav.

1. Eccremocarpus scaber, Ruiz & Pav.

Stat. Chili, in the mountains above Santiago.



Ord. Lentibulariaceae.

1. Pinguicula, Fourn.

1. Pinguicula Antarctica, Vahl.

Pinguicula Antarctica, Vahl, Enum.  
1. p. 192; Hook. f. Fl. Antarc. 2, p. 338,  
t. 119.

Hab. Orange Harbour, Trugia:  
mostly in fruit.

2. Utricularia, Lin.

1. Utricularia nervosa, Weber.

Utricularia nervosa, G. Web.; Benj.  
~~Utric.~~ Fl. in Mant. Fl. Bras.  
Utric. p. 247, t. 21, f. 3, & 22, f. 5.

Hab. Brasil, in the vicinity of  
Rio Janeiro.

2. Utricularia uniflora, R. Br.

3. Utricularia biloba, R. Br.

Hab. Sydney and Wollongong,  
New South Wales.

Ord.

Acanthaceae,

1. Ebermayera, Nees,

1. Ebermayera elongata, Miq.

Aemsonia elongatum, Blume, Rijds.  
p. 757.

Erythracanthus elongatus, Nees & E.

Griffithianus, Nees in Ob. Prodr.  
11, p. 78.

Ebermayera elongata, Miq. Fl.

Ind. Bot. 2, p. 775.

Hab. Luzon, Philippine Islands,  
in the vicinity of Manilla.



2. Gymnostachyum, Nees.

1. Gymnostachyum affine, Nees?

Hab. Mindanao, near Caldera,  
A small-flowered, perhaps undescribed  
species.

3. Stygrophila, R. Br.

1. Stygrophila salicifolia, Nees.

Hab. Luzon, Philippine Islands,  
near Manila.

4. Ruellia, Linn.

1. Ruellia australis, R. Br.

Hab. Hunter's River, New South  
Wales: in fruit.

2. Ruellia serpens, Nees in Db.?

Hab. ~~At~~ ~~Min~~ Mindanao, at Cal-  
dera, Philippine Islands.

A true Ruellia, allied to R.  
crispa and hirta, diffuse and creep-  
ing; but diverging from the char-  
acter of R. serpens in that the leaves  
are obtuse at both ends and not  
densely crenate. The materials  
are scanty.

3. Ruellia flagelliformis, Roxb.

Hab. Soolow Island. The specimens accord with the character of this <sup>obscure</sup> species as cited by Nees; but are too poor to complete the account of it.

4. Ruellia (Dipteracanthus) viscida.

Dipteracanthus (Aphragmia) viscidus, Nees  
in Ob. Prodr. 11, p. 140.

Hab. Peru, in the vicinity of  
Lima.

5. Prionitis, Lin., Miq.

1. Prionitis Stystrix, Miq.

Stystrix frutex, Kump. Herb. Amb.  
7, p. 22, t. 13.

Prionitis, Lin., Hort. Cliff. n. 486.

Barleria Prionitis, Lin., Spec.;

Wight, Ic. Pl. Ind. 2, t. 452;

Pres in DC. Prodr. 11, p. 237.

Hab. Luzon, near Manilla.

6. Lepidagathis, Willd.

1. Lepidagathis parviflora, Blume.

Hab. Luzon, in the mountains near Manilla: with triangular-ovate, roundish-ovate, and lanceolate leaves on the same plant,



7. Acanthus, Lin.

1. Acanthus ilicifolius, Lin.

Bilivaria ilicifolia, Juss.; Nes in  
Ob. Prodr. 11, p. 268; Wight, Ic.  
Pl. Ind. t. 459.

Hab. Luzon, in the vicinity of  
Manilla.

8. Stenandrium, Nes.

1. Stenandrium dulce, Nes.

Hab. Chili, in the vicinity of  
Valparaiso; common.

9. Lagochilium, Nes.

1. Lagochilium repandum, Nes.

Lagochilium repandum, Nes in  
Fl. Bras. Acanth, p. 86, & in  
Dc. Prodr. II, p. 293.

Hab. Organ Mountains, near  
Rio Janeiro, Brazil; an incom-  
plete specimen.

10. Strobilorachis, Klotzsch.

1. Strobilorachis prismatica, <sup>Nes.</sup> ~~Klotzsch.~~

Ruellia prismatica, Vellor. Fl.  
Flum. 5, t. 98.

Strobilorachis glabra, Link, Klotzsch,  
& Otte, Lc. Pl. 2, t. 48.

S. prismatica, Nees in Fl. Bras. l.c.,  
p. 84, & in Ob. Prodr. M. p. 294.

Stat. Brazil, in the Organ  
Mountains, near Rio Janeiro, and on  
the Corcovado.

11. Aphelandra, K. Br.

1. Aphelandra lyrata, Nees in  
Ob.

Stat. Peru, near Obrajillo; the  
form gathered by McLean in the  
same District, the type of the species,



12. Graptophyllum, Nes.

1. Graptophyllum hortense, Nes.

Hab. Luzon, in the vicinity of  
Manilla.

13. Rostellaria, Nes.

1. Rostellaria junceae, Nes.

Rostellaria sen Rostellularia junc-  
ea, Nes in Ob. Prodr. 11. p. 376.  
R. adscendens, Lindl. in Mitchell,  
Exped.

Hab. Hunter's River, New South  
Wales.

2. Rostellaria procumbens, Nes. var.

Hab. Mindanao, near Caldera,  
Philippine Islands; the ~~var~~ singu-  
lar var. R. Nes. l.c. with lanceo-  
late and glabrate leaves, Justicia  
adscendens, R. Br.

14. Dianthera, Linna.

1. Dianthera pectoralis, Linna.<sup>2</sup>

Hab. Rio Janeiro, Brazil; the  
~~var.  $\beta$ . of *Stec* smoother and broader-~~  
leaved form; Rhytiglossa pectoralis,  
var.  $\beta$ . Nees. The ~~Gronov~~

The Gronovian and Linnaean  
name is by all means to be restored  
for this genus <sup>(*Rhytiglossa*, *Leptostachya*,  $\beta$ . Nees)</sup> if retained as distinct  
from Justicia.

15. Amphiscepsia, Nees.

1. Amphiscepsia Beyrichii, Nees.

Hab. Brazil, in the vicinity of  
Rio Janeiro.

6. Justicia, Linn.

1. Justicia Gendarussa, Linn., <sup>Benth.</sup> f

Stat. Luzon, Philippine Islands,  
in the mountains near Manila.

17. Chamaranthemum, Nees.

1. Chamaranthemum Beyrichii, Nees.

Stat. Brazil, in the vicinity of Rio  
Janeiro; the var. γ. rotundifolium,  
of Nees; the androecium &c. as figured  
in the Flora Brasiliensis. A small  
fragment only collected.

18. Eranthemum, Linn.

1. Eranthemum variabile, R. Br.

Stat. Sydney, Hunter's River, &c.,  
New South Wales.

2. Eranthemum bicolor, Schrank.

Stat. Near Manila, Luzon, Phil-  
ippine Islands.



3. Eranthemum laxiflorum <sup>Sp. Nov.</sup>

E. glaberrimum; foliis ovato-sen-  
lanceolato-oblongis ~~petiolatis~~  
saepe acuminatis acumine  
obtusis; pedunculis axillaribus  
petiolo longioribus cymoso-tri-  
multifloris; bracteis oblongis par-  
vulis herbaceis; pedicellis calyce  
longioribus; laciniis calycis se-  
taeo-sutulatis tubo brevissimo  
pluribus longioribus; corolla  
"camalea" hypocraterimorpha,  
lobis ovalibus.

Hab. Feejee Islands; base of  
the mountains back of Mbra <sup>or Sandalwood</sup>  
Bay, <sup>rare,</sup> according to Dr. Pickering,  
in the herbarium also ticketed as  
from Sandal-wood Bay, Orolan, Is.

Shrub "6 feet high, ornamental", glabrous throughout. Leaves bright green, entire, 2 or 3 inches long, 9 to 18 lines wide, the veins inconspicuous, the base acute or obtusish; petiole 3 to 5 lines long. Peduncles from the upper axils, half an inch or an inch long, with a pair of foliaceous bracts at its summit ~~2 or 3 lines~~ 3 to 6 lines long, cymosely three-flowered, with the slender pedicels when well-developed <sup>3 to 5</sup> ~~3 or 4~~ lines long, the lateral ones bibracteolate; or more commonly the inflorescence developing into a 2-4 times dichotomous open cyme, the lower bracts mostly herbaceous, the upper ones  $1\frac{1}{2}$  to 3 lines long. Lobes of the deeply 5-parted calyx 3 lines in length, very slender. Tube of the "pale blue", shaggy, strictly hypericateriform corolla an inch

in length slender; the <sup>broad</sup> lobes 7  
to 9 lines long. Filaments a  
little exserted; anthers of the genus,  
as also the rudiments of the second  
pair of stamens. Capsule an  
inch long, the lower half sti-  
pitiiform and sterile.

A showy species, belonging  
to the same group with E. bi-  
color, and with a truly cymose,  
open inflorescence. The color of the  
flowers is stated from ~~the~~ Dr. Pickering's notes. This and  
the following <sup>marked</sup> are distributed by Dr. Seemann, under the  
name of <sup>†</sup>"Graptophyllum hortense," which throws  
doubt on the assigned difference in color.

4. Eranthenum insularum, Sp. Av.

E. glabrum; foliis ovatis lanceolatisve  
obtusae acuminatis; pedunculis  
axillaribus seu ramos terminanti-  
bus brevibus 1-3-floris; bracteolis  
minutis; calycis laciniis subu-  
latis tubo duplo triplo longi-



oribus; corolla "purpurea" in-  
fundibuliformi, lobis oblongis.

Hab. Feejee Islands; "frequent  
and sometimes cultivated." Varau  
and Lifuka, Friendly Islands.  
Prof. Harvey.

"An ornamental shrub, 6 feet  
high, with purple flowers." Closely  
related to the foregoing species; the fo-  
liage ~~same~~ and habit similar. The  
flowers, however, are fewer, solitary or  
geminant in the <sup>upper</sup> axils or at the sum-  
mit of short branchlets, on peduncles  
only 3 lines long, or some of them  
3-flowered; the corolla is shorter, ~~bro-~~  
the tube broader and gradually di-  
lated upward; the lobes narrower, 4 or  
5 lines long; the ~~calyx both~~ divisions  
of the calyx shorter. Androecium  
is ~~same~~ wholly similar, but the

fertile filaments, perhaps more  
exserted. Leaves sometimes obscurely repand.

Whether Justicia longifolia  
of Forster (J. sinuata, ~~Frank~~ Soland),  
which Kun has appended to his genus  
~~Aphaca~~<sup>Antha</sup> canthus, is a congener of  
this or not I am unable to as-  
certain; but this and the preceding  
certainly <sup>belong</sup> to Evanthemum.

19. Chatacanthus, Kun.

1. Chatacanthus repandus.

C. glaber, elatus; foliis ovato-lan-  
ceolatis seu oblongis acumine  
obtusis repandis sinuatisve  
membranaceis; pedunculis cymoso-  
panicifloris; corolla extus calyce  
que minutim pubescentibus.

Justicia repanda, Forst, Prodr. Fl. Ins.

Austr. p. 3; Vahl, Enum. p. 155?  
Eranthium repandum, Roemer,  
& Schult. Syst. 1. p. 175?  
Anthacanthus repandus, Nees in  
Ob. Prodr. 11. p. 462?

Stat. Orolan, Feeje Islands.

Shrubby? ~~apparently rather tall~~,  
diffusely branched. Leaves one or  
two inches long, on petioles of 3 or 4  
lines in length, thin. Peduncles in  
the uppermost axils, 2 or 3 lines long,  
~~bearing~~ 3 to 5 flowers. Bracts and bract-  
lets minute. Calyx-lobes setaceous-  
serrulate, pubescent,  $1\frac{1}{2}$  to 2 lines long,  
shorter than the tube of the corolla, -  
which is white, minutely bescent out-  
side, ~~the appear barely~~ scarcely  
half an inch long, apparently between  
funnel-form and salver-shaped; the



five lobes <sup>nearly equal, oblong,</sup> ~~equal, roundish,~~ Sta-  
mens 2, no rudiments of the  
second pair. Anthers as in C.  
Persoonii, i.e. ~~with a broadly lan-~~  
~~ceolate connective,~~ ~~the~~ didymous  
rather than cordate, the cells  
of delicate texture, somewhat di-  
vergent below, oval or oblong, on  
a broadly lanceolate connective.

This from the leaves should be  
Forster's Justicia repanda from  
Tanna. The inflorescence accord  
with that of the two Feejean species  
of Evanthemum described above; but  
the small flowers and the anthers  
are not those of that genus; while  
they do correspond with the Cape  
species upon which Nees founded his  
genus Chotacanthus.

20. Blechnum <sup>P.</sup> Brownei.

1. Blechnum Brownei, Juss.

Hab. Luzon, near Manila.  
Doubtless introduced ~~into L.~~ from  
Tropical America into Luzon, where  
it was also gathered by Stanke.

21. Dicliptera, Juss.

1. Dicliptera tomentosa, Nees.

Hab. Peru, in the environs of Lima, and a glabrate state of the same at Yanga.

2. Dicliptera acuminata, Juss.

Hab. Peru, in the vicinity of Obrajillo.

3. Dicliptera Burmanni, Nees.

Hab. Luzon; in the vicinity of Manila



4. Diicteria frondosa, Juss.

5. Diicteria clavata, Juss.

Hab. Tahiti, Society Islands. —

The specimens of ~~both~~ much too imperfect to throw ~~any~~ additional light upon these two species. One specimen of the former species, however, is finely and softly pubescent; the other, as described, glabrous or nearly so. — Of D. clavata, there is fruit dehiscent fruit to show that the plant is a true Diicteria, and that Forster's description, reproduced by Guillemain (in Repl. Jart. p. 43) is correct. In the character ~~from~~ which <sup>suggested the</sup> specific name, ~~was taken~~ it accords with the following species, but the clavation of the peduncles, &c. is indistinct. The bracts subtending the ramifications

of the inflorescence are ~~nodes~~ minute and subulate; the involueral valves are "linear-oblong" or rather linear spatulate and small only two lines long. The apparent contradiction in Vahl's description which so puzzled Kees (Prodr. 11, p. 490) is <sup>readily</sup> ~~readily~~ harmonised by noting that the word "bracteis" in the diagnosis refers to the involueral valves, in the appended remarks, to those which subtend the ramifications.

b. Dicliptera (Peristrophe) tinctoria,

Tab. Uroline, Society Samoa Islands: enumerated by Dr. Pickering among introduced plants: perhaps cultivated.

The specimens are of a <sup>(smooth)</sup> glabrate form of the species, with tapering-

acuminate leaves and lax inflo-  
rescence, as if grown in shade,  
much resembling Peristrophe montana,  
Nees, which, with several other species,  
should probably be merged in ~~the~~  
~~the~~ the wide-spread P. tinctoria.  
I have examined ripe fruit in the Sa-  
moan specimens only: here the  
dissepiment clearly separates below  
from the ~~valves~~ valves and rises  
upwards, as in Dicliptera. In a  
revision of the order probably this char-  
acter will be less regarded, and the  
genus Peristrophe suppressed.

Dicliptera umbellata, or ~~vertical-~~  
~~latis~~ Juss.? was picked up, without  
flowers, at St. Jago, Cape de Verde  
Islands.

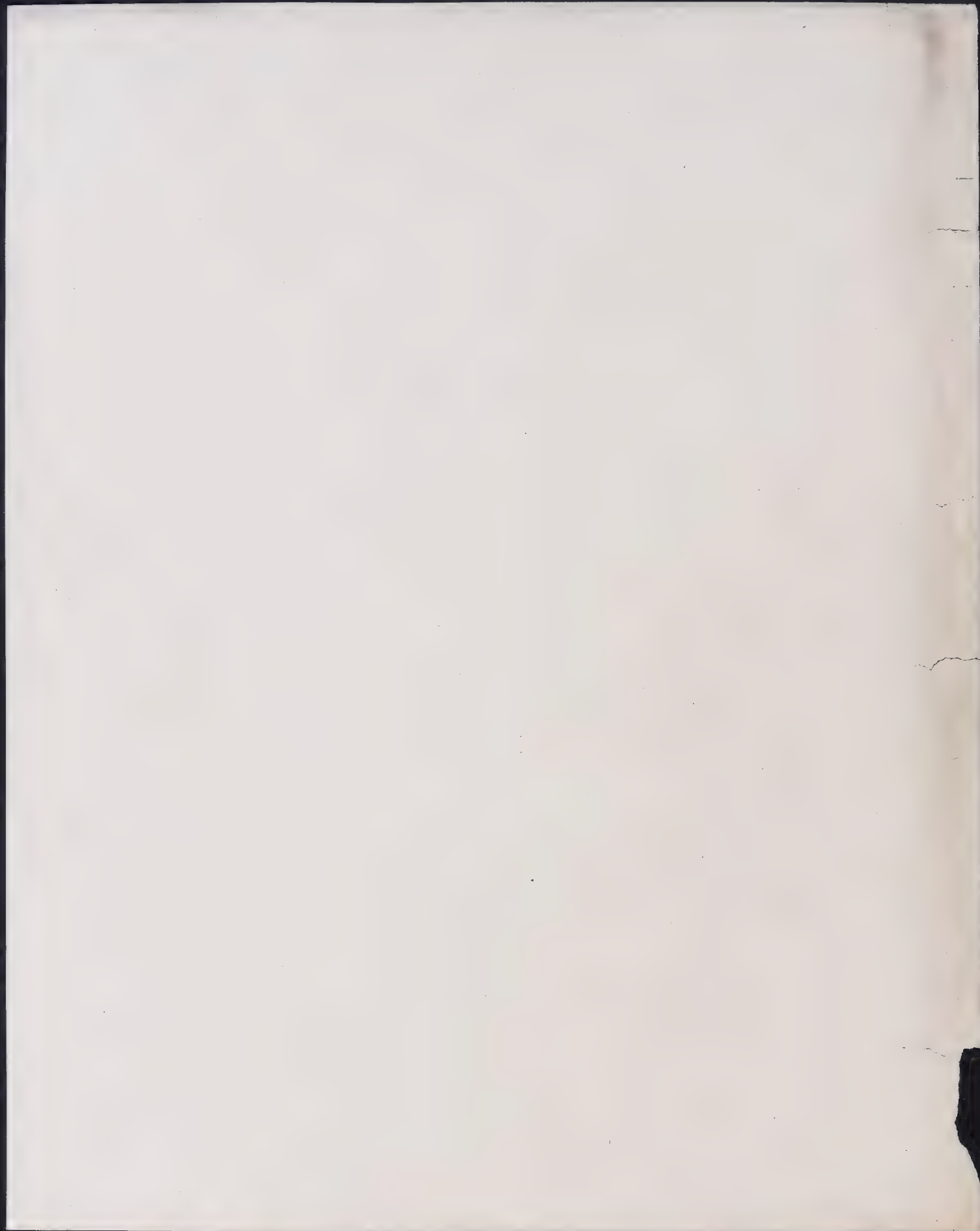


22. Hypoestes, R. Br.

1. Hypoestes purpurea, R. Br.

Stat. Luzon, in the Majai-jai mountains,

Several ~~undeterminable~~ Acanthaceae specimens, undeterminable on account of their ~~incomplete~~ insufficiency, are in the collection, mostly from the Philippine Islands.



Ord. Verbenaceae.

In this order the collection contains nothing of novelty or <sup>except the few specified which follow the list,</sup> particular interest. <sup>collected</sup> The species are: —

Spielmannia Africana, Willd.,  
picked up at Cape Town.

Gloanthus Stoechadis, R. Br., at  
Hunter's River, New South Wales.

Verbena erinoides, Lam., at Rio  
Negro, North Patagonia.

Verbena spathulata, <sup>and V. Berteri, Schauer,</sup> Willd., on the  
Andes above Santiago, Chili. #

Verbena Misspida, Ruiz & Pav., at  
Santiago, Chili,

Verbena Berteri, Schauer, at Val-  
paraiso.

Verbena littoralis, H. B. K., at Val-  
paraiso and at Callao and Lima.



Verbena cuneifolia, Ruiz and Pavon, at Obrajillo, Peru.

● Verbena officinalis, Linn., <sup>at the</sup> Bay of Islands, New Zealand; doubtless introduced.

Stachytarpha bayenensis, Vahl near Rio Janeiro, also Sandwich Islands, where it is naturalized.

Lippia scorodonioides, HBK., at Obrajillo, Peru.

Lippia seriphivoides, <sup>an undescribed</sup> ~~a new~~ shrubby species, at the mouth of the Rio Negro, North Patagonia, Vide infra. (Rio Negro, N. Patagonia, and)

Lippia canescens, HBK., at Cuzco, Peru.

Lippia nodiflora, Richard, at Manila, Luzon.

Lippia geminata, HBK., at Lima, Peru.

Lantana nivea, Nutt., L. mixta,  
Linn., <sup>and</sup> L. lilacina, Desv., from  
the vicinity of Rio Janeiro; and  
● L. camara, Linn.? from Lima.

Cithar<sup>ar</sup>oxylum cyanocarpum,  
Hort. & Arn., in fruit,, and from  
behind Valparaiso. <sup>(pure, in the</sup>  
<sup>Citharoxylum spinosum, H. B. K. at Baños valley &</sup>  
Canta, Petrea subserrata, Cham., at  
Rio Janeiro.

Premna integrifolia, Linn.  
from <sup>south</sup> ~~all~~ the South Sea Islands,  
and P. vertita, <sup>Schauer,</sup> from the Feejee  
and Philippine Islands. Vide infra.

Callicarpa eriochloea, Schauer,  
at Manilla.

Callicarpa longifolia, on a  
small island in the Sooloo Sea.

Aegiphila cuspidata, Mart.,  
well figured by Schauer in the  
Flora Brasiliensis, from Rio Jan-  
eiro. and

Aegiphila fluminensis, Vellozo,

Gardner's no. 5574, not cited in the  
Flora Brasiliensis, from the vicinity  
of Rio Janeiro <sup>near</sup> ~~from~~ Rio Janeiro  
~~Euphorbia triantha~~, Schauer, ? in print only.  
Nolkameria aculeata, Linn., from  
a cultivated tree at the Cape of  
Good Hope.

Glendendron tomentosum, R. Br.,  
at Hunter's River, New South Wales,

Glendendron villosum, Blume  
and G. acuminatum, Wall., picked  
up at Singapore.

Glendendron intermedium, Cham.,  
the mountains of  
in Luzon near Manila.

Glendendron inermis, R. Br. var. ?  
Oceanicum, Caldera, Philippine Islands,  
and the principal South Sea Islands.  
Vide infra.

Glendendron (Tetrathyranthus)  
ovalifolium, from the Feejee, and  
G. (Tetrathyranthus) Amicorum,  
from the Tonga and Samoan  
Islands; new species, constitu-



ting a new section in the genus: vide infra.

Gmelina Asiatica, Linn. and G. villosa, Roxb. - perhaps only forms of one species - from Caldera, Mindanao, and from an island in the Soolow Sea.

Vitex littoralis, A. Cunn., at New Zealand, figured in Stokes's Icones.

Vitex trifolia, Linn. f., at the Samoan and Feejee Islands; with the var. unifoliolata, Schauer, (or simplicifolia, Cham.) (V. ovata, Thunb., etc.) at the latter; also a form of this variety, more like the Chinese, but stouter and with very short-petioled leaves, on the sandy shores of Kauai and Maui, Sandwich Islands.

Vitex Negundo, Linn., Luzon, near Manila.

the Black Mangrove,

Avicennia tomentosa, Jacq.,

at Rio Janeiro, Brazil.

Avicennia officinalis, Linn.

• ex Schauer, at Bay of Islands, New Zealand, islands in the Solov Sea, and Sydney, New South Wales. — And finally the

Nesogenes euphrasivides, A. DC. of the Coral Islands, which, both by the anthers and the ovules, ~~belongs to~~ differs as well as aspect, differs from Myopaceae. vide infra.

1. Lippia, Lin.

1. Lippia scriphtoides, sp. nov.

● L. fruticosa, intricato-ramosis=  
simula, puberulo-scatrida; ramis  
rigidis; foliis minimis fascicula-  
tis <sup>linearibus</sup> spatulatis cuneatisve saepius  
trilobis margine revolutis; capit-  
ulis globosis demum elongandis  
ex axillis breviter pedunculatis  
solitariis vel breviter subracemosis;  
bracteis ovatis ~~et~~ concaviusculis  
rubiginoso-glandulosis calyce ~~brevi~~  
~~pubescente~~ oblongo breviter bi-  
fido brevioribus; antheris superi-  
oribus saepe appendiculatis.

Hab. Rio Negro, North Patu-  
gonia, on the upland plain and  
elsewhere.

This, which W. Pickering char-  
acterises as "an unsightly shrub,



The leaves reduced to mere green granules oppositely disposed along the coarse blackish branches, ● The odor "Thymus-like", if I mistake not occurs in the collections of Tweedie and of Gillies in the Sturkenian herbarium. It is there named Verbena rubiginosa, Gillies, - a name which was never published, so far as I can learn, and which <sup>may</sup> is preoccupied in the genus Lippia. The leaves are from one to 2½ lines long, the smaller ones in the fascicles often entire, but the primary ones nearly all of them more or less three-lobed at the ~~ap~~ summit; the margins strongly revolute. Heads solitary or racemose at the ends of the branchlets, 2 or 3 lines in diameter, on peduncles of barely the same length: with age

The rhachis elongates somewhat and below is squarrose with the rigid bases of insertion of the flowers; the bracts (a line long) deciduous. Calyx  $1\frac{1}{2}$  or 2 lines long, pubescent and subglaucous-glandular, the two lateral lobes or lips broad, mostly emarginate. Corolla ~~hardly~~<sup>not</sup> twice the length of the calyx. Hypocrateris-morphous, apparently white, the limb somewhat bilabiate, glabrous. The two upper ~~stamens~~ stamens commonly (but not always) have the connective extended into a filament-shaped, clavate, glandular-tipped, somewhat exserted appendage, ~~like~~ nearly as in the Glandularia section of Verberna. The habit of the plant is not unlike that of Verberna seriphoides.

2. Premna, Lin.

1. Premna integrifolia, <sup>Lin.?</sup>

Hab. On the coast of Mangsi, Society, Samoa, and Feejee Islands.

For whatever name this species be referable, all our specimens clearly are of one species, which includes P. Faintensis, Schauer in DC., and probably P. Gandichaudii, and some others, and which plainly shows that the nice distinctions drawn from the form of the teeth of the calyx - even those upon which the primary sections, Gumira and Premnos, are founded, are of ~~no~~ little avail. In this the short limb is usually more or less bilabiate, with one of the lips 2-toothed or emarginate,



the other 2-toothed, 3-toothed, or entire. The leaves vary considerably, the larger ones commonly inclining to be cordate.

2. Premna vestita, Schauer, f.

Var.? Vitiensis; foliis <sup>(basi sine profundiori)</sup> ~~magis~~ cordatis,  
calyce truncato vix lobato.

Tab. Near Manilla, Luzon,  
the same as Burnings's no. 599.  
Var. Feejee Island; "frequent  
<sup>along</sup> ~~on~~ the sea-shore, and occurring  
also at some distance behind."

Unwilling to add to the load  
of species which cannot now be  
understood without an entire revision,  
and observing how much the calyx-  
teeth vary in this genus, I refer  
the specimens from the Feejees to  
P. vestita although the truncate

border of the calyx, instead of being rather deeply four-cleft, has four <sup>sometimes</sup> or five very shallow incisions.

- The flowers may also be rather larger, but the means of comparison are not ~~considerable~~, ample.

### 3. Clerodendron, Lin.

#### 1. Clerodendron inerme, R. Br.

Var. ? Oceanicum: foliis majoribus ( $2\frac{1}{2}$  - 5 pollicaribus) magis acuminatis; calyce truncato denticulis 5 minutis; cymis nunc 5-7-  
<sup>floris.</sup>

Volkameria inermis, Forst. Prodr. p. 45, <sup>vix Lin.</sup>

Clerodendron inerme, Blume, Bijdr.  
p. 808, excl.  $\beta$ .

C. Comersonii, Spreng. Syst.  
2, p. 758?

Hab. Samoa, Tonga, and  
<sup>abundant on the coasts;</sup>  
Feejee Islands; also ~~also~~ <sup>(Mindanao)</sup>. Col-  
lected also by Dr. Seemann on the  
• Feejee, and by Dr. Harvey on the  
Friendly or Tonga Islands.

This has evidently been con-  
fused with C. inermis, which  
has smaller and blunter leaves  
and, as described by Schauer, "calyce  
5-dentato dentibus lato-triangulari-  
bis acutis"; whereas in this the  
(perhaps more cyathiform) calyx  
is exactly truncate or obscurely  
repand, with five mucroniform  
denticulations. So far as ~~could~~  
can be judged from all the spe-  
cimens before me, this might  
well claim to be specifically  
distinct, and it may be C. Com-  
mersonii. I suspect, however, that  
intermediate forms occur.



2. Clerodendron (Tetrathyranthus\*)  
ovalifolium, Sp. Nov.

C. foliis ovalibus obtuse acumin-  
ulatis integerrimis basi sub-  
angustatis cum petiolo brevi ra-  
misque teretibus glabris; cy-  
mis plurifloris corymboso-panic-  
ulatis carnescenti-puberulis;  
corolla hypocrateriformis, tubo  
(ultra pollicari) calyce obtuse  
quadrilobo pluries longiore, lobis  
4 rotundatis <sup>inter se</sup> equalibus stamina  
adaequantibus.

---

\* Limbus calycis et Corollae quad-  
rilobus, <sup>forse</sup> regularis; cat. Eucleroden-  
dri.

Hab. Ileeje Islands, in the mountains of Orolan, is the ~~plant~~ second species mentioned in Dr. Pickering's notes; but the specimens are marked Sandulwood Bay.

Shrub or small tree, glabrous, except the inflorescence. Leaves rather coriaceous, oval and inclining towards obovate, 5 to 7 inches long,  $2\frac{1}{2}$  to 4 inches wide, the petiole half an inch to an inch in length. Peduncles one or 2 inches long, compressed, as are its divisions, 7-12-flowered; the cymes forming a terminal corymbose panicle, the leaves gradually reduced to small oblong or lanceolate bracts. Pedicels 3 to 6 lines long. Calyx glabrous or glabrate, of a thick ~~text~~ and firm texture, ~~apparently~~ valvate in aestivation, 3 lines long, apparently

little enlarged after anthesis,  
Corolla an inch and a half long,  
of nearly the same diameter and  
glabrous up to the limb, which  
is regularly 4-parted and mi-  
nutely camescent; the lobes  
3 lines long, thickish, imbrica-  
ted in aestivation. The genitalia,  
which do not surpass the lobes  
of the corolla are altogether  
as in Clavodendron, except that  
the two short lobes of the stig-  
ma are flattish and obtuse.  
Fruit unknown.

Notwithstanding the tetrame-  
rous flowers, ~~there is no reason~~  
before unknown in Clavodendron,  
~~there~~ I do not hesitate to retain  
this and the following species  
in that genus.



3. Blendardron (Tetrathyrasthus) Ami-  
corum, ~~Sps. Nov.~~

● C. foliis ovali- seu cuneato-  
obovatis in petiolum brevem  
attenuatis integerrimis ra-  
misque subteretibus glabris;  
cymis multifloris corymboso-  
paniculatis canescenti. puber-  
ulis; corollae tubo subinfundi-  
bulari calyce quadrilobo 3-  
4-pto lobis suis 4 subsim-  
ilibus 2-3-pto longioribus;  
staminibus modice exsertis.

Blendardron Amicorum, Sem. in Bourplandia, 10,  
(Aug. 1892), p. 249.

Hab. Samoan Islands; also  
Navau and Lifuka, of the Tonga  
or Friendly Islands, Dr. Harvey.

A close congener of the last,  
and one of which we have am-  
pler materials. Perhaps they <sup>two</sup>  
may be found to run together.

But this has the leaves more narrowed at the base, and the larger ones from 9 to 11 inches in length; the cymes many-flowered; the calyx and the lobes of the corolla larger, while the tube of the latter is shorter and enlarging upwards, indeed nearly funnel form, and the four stamens are moderately exserted. The largest and best developed flowers are those of my specimen from Professor Harvey. In these the tube of the corolla attains an inch in length, and the spreading slightly unequal lobes about half an inch. In our specimens the parts are smaller. The tetramerous flowers recall Labillardiere's genus Oxera, of New Caledonia; which, indeed might now about as well be reduced to a

section of Clorodendron, not-  
withstanding the ventricose and  
irregular corolla and the ~~abs-~~  
<sup>sterility</sup> ~~trough~~ of the upper pair of stamens.  
In these important respects  
C. Amicorum accords with  
Clorodendron. \*

4. Nesogenes, A. D. C.

Calyx obconicus, 10-nervis, 5-dentatus,  
dentibus triangulatis, post anthe-  
sin auctis patentibus. Corolla  
bilabiata, labio superiori bipar-  
tito, inferiori ~~trilobo~~ tripartito,  
lobis rotundatis consimilibus,  
posticis paullo brevioribus. Sta-  
mina 4 fertilia, ~~cum rudimen-~~  
~~to quinti~~ didynama, cum ves-  
tigio filamenti quinti: antherae

\* Since these descriptions were  
drawn up, Dr. Seemann has published  
a character of this species, in the Bon-  
plandia of Aug. 15, 1862, <sup>(as above cited)</sup> and fortunately  
under the same specific name which  
I had chosen. But he does not men-  
tion the shortness of the corolla, nor <sup>its</sup> ~~the~~  
tetramerous character <sup>with that of the calyx,</sup> which ~~especi-~~  
~~ally distinguishes~~ is most remarkable.  
Indeed Seemann describes the calyx  
as quinquefid, <sup>probably an oversight, as it</sup> which is not the  
case in any of the specimens before  
me.



biloculares, didyma, loculis  
<sup>paucis</sup> ~~multis~~ divergentibus basi aristulatis.  
Discus hypogynus nullus. Ovari-  
um ovatum, biloculare, loculis  
uniovulatis: stylis terminalis,  
filiformis: stigma parvum  
indivisum. Ovula e basi locu-  
li erecta, anatropa. Infructus  
sicca, mucumtacea, parva,  
calyce inclusa, epicarpio ten-  
uissimo, endocarpio crustaceo,  
bilocularis (~~nunc~~ vel dissepimen-  
to evanido unilocularis), di-  
spermum, <sup>a. vel abopte monospermum.</sup> Semen cylindraceum,  
testa reticulata, albumine par-  
co. Embryo teres, radícula in-  
fera cotyledonibus aequilonga. —  
Herba <sup>sesquipedalis,</sup> ut videtur annua, caulibus  
basi nunc basi lignescen-  
tibus, hirtello-scaltra, ramis  
foliosis; foliis <sup>oppositis</sup> parvulis ovatis

basi angustatis in Petiolum  
breve attenuatis integerrimis,  
inferioribus nunc subcrenatis;  
floribus parvis in axillis sepi-  
sime geminis; pedicellis calyce  
brevioribus minutissime bilac-  
teolatis mox decurvis; corolla  
carulescente?

1. Nesogenes euphrasivides, A. Dc.

Myoporum? euphrasivides, Hook.  
& Arn. Bot. Beech. Voy, p. 67.

Nesogenes euphrasivides (error  
typogr.), A. Dc. Prodr. II, p. 703.

Hab. Coral Islands of the Pa-  
cific: Whitsunday Island, Beechey.  
In our collection from Taiara or  
King's Island, Carlschoff, Karaka, &c.

This plant has <sup>rather</sup> the aspect  
of Stedoma pulegioides or of a  
Lythrum. It is not a shrub,  
but probably an annual, with  
the stem indurated, and often as  
it were lignescent at the base.  
The anthers are completely two-  
celled, and the ovules erect. So  
that it really has nothing in  
common with the Myoporaceae,  
to which Storker and Arnott referred  
it, and upon whose description  
Alphonse De Candolle character-  
ized the plant as a new genus  
in that order. Without doubt  
it is a true Verbenacea; but I know  
of no genus to which it is related.



Ord

Globulariaceae

Globularia salicina, Lam.  
~~gathered~~ <sup>little</sup> collected at Madeira, represents this  
Old Word order in the present  
collection.

12/12/12

Ord. Labiata.

1. Ocimum, Lin.

1. Ocimum Basilicum, Lin.

Hab. Tahiti, Society Islands; "naturalized and cultivated." (O. gratissimum is enumerated in the Botany of Beechey's Voyage and by Guillemain, but our naturalists noticed only the present species.) Samoa and Feejee Island; "clearly introduced"; at the Feejees "cultivated by the natives." This also is enumerated as O. gratissimum by Seemann in the list of his Feejee collection.

2. Plectranthus, L'Her.

1. Plectranthus australis, R. Br.

Hab. Sydney, New South Wales.



2. Plectranthus parviflorus, Willd.

Hab. Hunter's River, New South Wales.  
Kauai and Hawaii, Sandwich Islands.  
Indigenous?

3. Plectranthus Forsteri, Benth.

Hab. Manna, Navigators' Island,  
Ovolan, Is. Feejee Islands. It is <sup>the</sup> Colens  
atropurpureus of Dr. Seemann's list.

3. Colens <sup>(Lour.)</sup>  
~~acuminatus~~

1. Colens acuminatus, Benth.

Hab. Luzon, in the vicinity of  
Manilla, where it was first found  
by Chamisso.

2. Coleus scutellarioides, Benth.

Stat. Luzon, in the Majajai Mountains near Manilla: a variety with very coarsely toothed leaves, mostly cuneate at the base, not purple-blotched, approaching Miquel's var. laciniatus (C. laciniatus, Benth.): in fruit only.

4. Peltodon, Pohl.

1. Peltodon radicans, Pohl.

Stat. Brazil, in the Organ Mountains near Rio Janeiro.

5. Styptis, Jacq.

1. Styptis fasciculata, Benth.

Stat. Brazil, in the Organ Mountains,

near Rio Janeiro.

2. Styptis pectinata, Port.

Stat. Peru, in the aridated river  
bed of the Rimac, at Lima.

3. Styptis maculosa, Port.

4. Styptis spicigera, Lam.

5. Styptis capitata, Jacq.

6. Styptis brevipes, Port.

Stat. Philippine Islands: no. 4 and  
no. 6 from Caldera, Mindanao; the  
others from Luzon, near Manila.  
All of them doubtless introduced from  
America.



6. Marsypianthes, Mart.

1. Marsypianthes hypstoides, Mart.

Stat. Brazil, in the neighborhood  
of Rio Janeiro: a most common  
plant.

7. Lavandula, Tourn.

1. Lavandula stachas, Lin.

2. Lavandula pinnata, Lin. f.

Stat. Madeira; on the sea coast  
at Funchal.

8. Mentha, Lin.

1. Mentha viridis, Lin.

2. Mentha piperita, Lin.

3. Mentha pulegium, Lin.

(the two latter also)  
Itab. Madeira; and in Chile,  
near Valparaiso and Santiago;  
introduced from Europe.

4. Mentha aquatica, Lin.

Itab. Cape of Good Hope, in  
the vicinity of Cape Town; doubt-  
less introduced from Europe.

5. Mentha satereioides, R. Br.

Itab. New South Wales, at Syd-  
ney.

9. Lycopus, Tourn.

1. Lycopus australis, R. Br.

Itab. Woolongong, New South  
Wales.

This Australian Lycopus was

first arranged by Benthams as  
a variety of L. Europæus, and then  
reinstated, with the remark that  
it is very closely related to the  
North American L. sinuatus.  
As I cannot specifically distin-  
guish the latter from L. Euro-  
pæus, nor the Australian from  
the North American, except that  
L. australis has more slender  
calyx-teeth, Benthams sugges-  
tion that all the known species  
may be reduced to L. Europæus  
and L. Virginicus, becomes more  
and more probable.

## 11. Origanum, Journ.

### 1. Origanum vulgare Lin.

Hab. Madeira. - This is recorded  
in DeCandolle's Prodr. as if indige-



now to the New as well as to the  
Old World. But in the United  
States it ~~has scarcely~~ is only nat-  
uralized, and that very sparingly,  
in some districts,

III. Micromeria, Benth.

1. Micromeria varia, Benth.

Tab. Madeira; Corral, on dry  
rocks, and with it a fragment of  
the common Calamintha Olivio-  
podium, Benth.

12. Gardouquia, Kniz & Par.

1. Gardouquia Gilliesii, Graham.

Stat. Chile; common on the slopes behind Valparaiso. "Flowers bluish-purple, but turning red in drying."

2. Gardouquia elliptica, Kniz & Par.

Stat. Peru; common at Obrajillo, where it was before collected by Griseb = shanks.

3. Gardouquia revoluta, Kniz & Par.

Stat. Peru; frequent in the environs of Obrajillo and of Baños. This <sup>ascends</sup> ~~extends~~ ~~upwards~~ into the alpine region, and is therefore included, and well characterized in Weddell's Chloris Andina.

4. Gardouquia pilosa, Sp. Nov.

G. fruticosa; ramis glabris; foliis lato-  
sen rhombico-ovatis petiolatis sub-  
serratis lineato-venosis hand cori-  
acis puberulis subtus vix canes-  
centibus; verticillastis multifloris;  
calycis ~~herm~~ hirsuti pedicello lon-  
gioris dentibus subulatis, fauce intus  
nuda; corollis pilosis calyce  
(semipollicari) triplo longioribus.

Ital., Peru, at Baños; "frequent  
along the upper margin of the [al-  
pestrine] region."

A shrub, 3 to 5 feet high. Leaves  
half an inch or less in length, not in-  
cluding the distinct petiole, either  
rounded, or somewhat truncate, or cune-  
ate at the base, irregularly and rather  
sharply serrate or serrulate, puberulent,  
or the younger ones and bracts hairy.



paler underneath, glabrate with age. Pedicels 2 to 4 lines long. Calyx tubular, hirsutely hairy, the teeth broadly subulate, of equal length. Corolla fully an inch and a half long when fully developed, ~~strong~~ densely pubescent in the ~~bud~~ bud, and moderately so in the expanded flower. "Scarlet", the lobes ovate and obtuse. Stamens slightly exserted. In the foliage this resembles G. rugosa, but the flowers are much larger, the corolla elongated. &c. It should be compared with G. pulchella, H.B.K.; but the branches are glabrous, the leaves not tomentose beneath <sup>nor</sup> ~~or~~ coriaceous.

13. Sphacele, Benth.

1. Sphacele Lindleyi, Benth.

Stat. Chili; common around Valparaiso.

2. Sphacele lamiifolia, Benth.

Stat. Peru, in the vicinity of Obrajillo. Corolla straight, "scarlet".

3. Sphacele hastata, Sp. Av.

S. herbacea; foliis amplis hastatis creberrime crenulatis utrinque canesque cano-tomentosis, floratis oblongo-lanceolatis sessilibus; cymis laxis multifloris thyrsum elongatum ef-

ficentibus; corollis "purpureis"  
tubulosis calyce triplo lan-  
gioribus; ~~staminibus~~ ~~longe~~  
exsertis, genitalibus sublonge

Stat. On Haleakala, E. Maui,  
Sandwich Islands, from 3000 to  
5700 feet above the sea.

Apparently herbaceous and  
tall, but the height of the stems  
not recorded, canescent with a  
fine and soft tomentum. Can-  
line leaves about 6 inches long,  
on petioles of  $1\frac{1}{2}$  to two inches  
in length, whitened with a close  
and very soft tomentum, slightly  
rugose, exactly and rather narrowly  
hastate,  $2\frac{1}{2}$  to 5 inches broad at  
the base, including the tapering  
and acute basal lobes, <sup>above</sup> tapering  
to an acute or acuminate apex,



The margin finely and closely  
crenulate. Lowest floral leaves  
2 or 3 inches long, sessile by  
a somewhat narrowed base;  
the upper successively smaller.  
Inflorescence hoary-pubes-  
cent, at length glabrate, some-  
what glandular; the many-flow-  
ered ~~cymes~~ dichotomous cy-  
mes short-peduncled, approxi-  
mate, forming an elongated  
thyrsoidal panicle. Pedicels  
slender, 2 to 4 lines long. Calyx  
3 lines long, in fruit 5 or 6 lines  
long, <sup>moderately</sup> slightly bilabiate; the nar-  
rowly subulate teeth rather shorter  
than the cylindraceous-campan-  
ulate tube. Corolla about an  
inch long, somewhat pubescent.  
Stamens and style conspicuously  
exserted. Anthers very smooth.  
— A most striking and distinct species.

14. Salvia, Lin.

1. Salvia coccinea, Lin.

2. Salvia mentiens, Pohl.

3. Salvia confertiflora, Pohl.

Hab. Brazil, at Rio Janeiro and  
in the neighboring Organ Mountains.

4. Salvia strictiflora, Hork.

5. Salvia Cruckshanksii, Benth.

Hab. Peru; the former from Yaso  
to Obrajillo; the latter abundant at  
and above Obrajillo; both just where  
they were collected by Cruckshanks.

6. Salvia occidentalis, Swartz,  
(Peru, at Lima.)

Stat. Tahiti, Society Islands.  
Maua, Samoan Island: "seem-  
ing indigenous on dry rocks." Not  
before recorded from the islands of  
the Pacific; but M. P., who sends  
it from Tahiti states it to be very  
common there. Andersson gathered  
it on the Galapagos, and Remy  
at the Sandwich Islands. Doubt-  
less it has been introduced from the  
America.

7. Salvia plebeja, R. Br.

Stat. New South Wales, on Hunter's  
River.



8. Salvia Africana, Lin.

9. Salvia paniculata, Lin.

Hab. Cape of Good Hope, in the vicinity of Cape Town, where they are common species.

10. Salvia Aegyptiaca, Lin.

Hab. St. Jago, Cape de Verde Islands: common on dry rocks.

15. Brunella, Tour.

1. Brunella vulgaris, Lin.

Hab. Woolongong, New South Wales. One of the most widely distributed of Phanogamous plants.

10. Scutellaria, Linn.

1. Scutellaria humilis, R. Br.

Hab. New South Wales, at Hunter's River. ~~Also~~ A Tasmanian species, allied to S. minor, of Europe and Asia.

Perilomia oeymoides, St. Bk., which ~~Dr.~~ Buckshanks collected at Obrajillo, was seen ~~seen~~ abundantly there, <sup>appears from</sup> as Dr. Pickering's Memoranda, but no specimen exists in the collection.

17. Stachys, Lin.

1. Stachys albicaulis, Link.
2. Stachys grandidentata, Link.
3. Stachys Macraei, Benth.
4. Stachys Bridgesii, Benth.

Hab. Chili, near Valparaiso, where they abound, except the last named, which was from the Cordilleras near Santiago.

5. Stachys arvensis, Lin.

Hab. Peru, in the Andes between Baños and Cuzco, taken for indigenous by Dr. Pickering. Also at Sydney, N. S. Wales, and St. Helena; introduced,



18. Leucas, Burm.

1. Leucas decurdata, Smitt.

Hab. Society, Samoa, and  
Feije Islands, Is.: "naturalized."

2. Leucas Javanica, Benth.

3. Leucas lineifolia, Spreng.

Hab. Luzon, Philippine Islands,  
near Manila.

Leonurus sibiricus, Lin. and  
Leonotis repetaefolia, R. Br. were  
picked up in the town of Rio Ja-  
neiro, in waste grounds.

19. Gomphostemma, Hall.

1. Gomphostemma Philippinarum,  
Benth. in DC.

Hab. Luzon, in the Majai-jai Mountains near Manila.

20. Phyllostegia, Benth.

An examination of the now extant materials leads to calls for the suppression of four of Bentham's species and for the establishment of as many new ones, two of which, ~~by~~ on account of their simplified inflorescence and their habit, constitute a peculiar section of the genus, <sup>and P. flabrida may rank as another.</sup> All the known species <sup>(still are restricted to</sup> ~~are for~~ <sup>are</sup> natives of the Sandwich Islands. The species

may be disposed as follows:—

§ 1. Gemina.—Racemi ~~caulem~~ ~~terminantes~~ verticillastri flori, nunquam verticillastri 6-20-flori, in racemo caulem terminante dispositi, <sup>(vel</sup> in-  
fimi (<sup>nunc lusu</sup> ~~raro~~) omnes) ~~in~~ axilla-  
res. Corolla albae.

Calycis lobi tubo aquilangi, foliacei  
amplissimi, hirsutissima, P. vestita.

Calycis lobi tubo pl. m. breviores:

Fructiferi ampliati, explanato-pa-  
tentes, foliacei. Pedicelli calycem  
sericeo-pubesce, subaequantes. P. grandiflora.

Fructiferi mod. explanato-paten-  
tes (P. racemosa forte excepta).

Glabra: pedicelli graciles,

Verticillastri pluriflori, mod.  
pedunculati.

P. brevidens,  
2. sp.

Verticillastri 6-flori, cymulis  
saepe pedunculatis!

P. glabra.

Hirsutissima: pedicelli breves. P. hirsuta.\*

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\* Known only by the deplorate specimens  
of Macrae's collection, but probably of this genus.



Molliter pubescens seu villosa.

Pedicelli graciles calyce  
sepiissime longiores: pili  
patentes. —

P. parviflora.

Pedicelli calycem: cum  
corolla strigoso-pubesc.

centem subaequantes. P. clavata.

Pedicelli brevissimi, plurimi.

Calycis lobi subulato-

lanceolati tubum  
subaequantes.

<sup>(n. sp.)</sup>  
P. stachyoides.

Calycis lobi ovati, ob-

tusi, tubo breviores. P. racemosa.

§ 2. Lateriflora. — Racemi simpli-  
ciflori (~~Pedicellis~~ solitariis),  
breves, ex axillis foliorum infe-  
riorum. Corollae violaceae,  
parvae.

Genes.

Lobi calycis minutissimi tubo aequi-  
longi, lineares.

P. floribunda.

§3. Staplostachya. Spica simplici-  
flora terminalis, nuda. Corollae  
albæ, tubo longo, <sup>subaequalibus</sup> lobis crispis  
~~inferius minus~~ <sup>elongato</sup> ~~etiam~~ ampliato.  
Folia subtus cano-tomentosa.

Folia basi sat cordata: calycis  
dentes <sup>angusti acuti</sup> ~~subulati~~. P. staplostachya, n. sp.  
Folia basi vix cordata: calyx ~~repando~~-  
truncatus, ~~obtusissime~~  
~~sub-5-dentatus~~. P. truncata, n. sp. \*

\* Phyllostegia truncata (Sp. nov.): to-  
mentulosa; foliis lanceolatis crenula-  
tis basi truncatis vel subcordatis sub-  
tus incanis; floribus ~~brevisime~~ in  
spicam simplicem digestis brevis-  
sime pedicellatis; calyce puberulo  
glanduloso, <sup>repando</sup> truncato, dentibus  
brevissimis latis obtusissimis; corollae

1. Phyllostegia vestita, Benth.  
P. undique hirsutissima; foliis ovatis;  
racemo elongato; calycis lobis folia-  
ceis amplissimis patentissimis  
ovatis oblongisve acutis saepe den-  
tatis tubo aequilongis; corolla  
brevi. — Variat racemo laxiore folioso  
(P. vestita)

tubo elongato, lobis elongatis rotun-  
datis subaequalibus crispis. — Maui,  
Sandwich Islands, Coll. Kemy, no. 395.  
— Upper leaves one or two inches long,  
3 to 5 lines wide, velvety-pubescent above,  
<sup>finely</sup> white-tomentose beneath; lower leaves  
not seen. Spike elongated, the lower pairs  
of flowers an inch apart, the upper ap-  
proximate. Bracts <sup>stamens, style,</sup> as in P. haplostachya;  
the pedicels more obvious, a line or a line and a half  
long. Calyx cylindraceous, ~~in fruit somewhat campanulate~~  
glandular-atomiferous, cylindraceous becoming rather  
campanulate, and in fruit ovate by the contraction of the  
orifice, which ~~is truncate~~ has 5 very short and broad ~~teeth~~  
or obscure teeth. Corolla an inch or more in length. Achenia  
as in P. haplostachya, but slightly glandular, not hairy, at the  
summit.



Benth.) et racemo denso,  
nudo, foliis floralibus ple-  
nisque calycis fructiferi haud  
superantibus (P. dentata Benth.).

*Phyllostegia vestita* & *dentata*,  
Benth. in Bot. Reg. sub. n. 1292,  
Lab. p. 651, & in *Ed. Prodr.* 12,  
p. 553.

*Sub. Hawaii* } <sup>in forest of</sup> on the District  
of Puna, and on Mouna Kea,  
where it was discovered by Macrae.

Well marked by its <sup>very</sup> minute or  
even hispid hairiness, membra-  
ceous ample leaves (4 to 6 inches  
long besides the petiole, either rounded,  
somewhat acute or truncate at the  
base), and the ample foliaceous lobes  
of the calyx which in fruit become  
nearly half an inch long. In the

form with leafy inflorescence no less than in the other, the calyx lobes are apt to produce one or two teeth on each margin, corolla "white, rather small", its tube hardly exserted from that of the calyx.

2. Phyllostegia grandiflora, Benth.

P. appresse-pubescentis vel glabrescens; foliis ovato-oblongis sen ovatis crenato-serratis; racemo sub<sup>verticillatis 6-floris;</sup>laxo simplici; calycis lobis foliaceis ovatis obtusissimis patentibus tubo dimidio brevioribus, fructiferis ampliatis; corollae ~~albae~~ tubo extus sericeo calyce triplo longiore, labio inferiore maximo.

Prasium grandiflorum Gand. (cf. P. macrophyllum)

Bnt. Frey e. Voy. p. 453, t. 65, f. 2.

Phyllostegia grandiflora, Benth.

l.c. & in Linnaea, 6, p. 78; Hook.

& Arn. Bot. Beech. Voy. p. 93.

on the mountains near Honolulu

Hub. Oahu, where it was collected by <sup>Nelson,</sup> Macrae, Chamisso, Gaudichaud, and most latter collectors.

Leaves 2 to 4 inches long, often acuminate, glabrate or glabrous above, more or less pubescent with short hairs beneath. Axis of the inflorescence, pedicels, calyx &c. silky-pubescent, less so with age but not becoming glabrous. ~~Verticillasters 6-flowered, the slender pedicels not raised~~  
~~Corolla at first straight~~ Calyx on any common peduncle, at first rather cylindraceous, with the spreading lobes a line and a half or less in length, in fruit campanulate, with the lobes <sup>"white"</sup> from 2 to 3½ lines long. Tube of the corolla



usually an inch long, at first straight  
straight, in anthesis becoming re-  
curved. To A

To this species I suspect belongs  
Gaudichaud's Prasium macrophyllum  
also; but ~~not~~ Benth's P. ma-  
crophylla, at least as to Macrae's  
plant, from which his description  
is principally ~~taken~~ <sup>(and which)</sup> drawn, I take  
for a form of P. parviflora.

### 3. Phyllostegia brevidens, Sp. Nov.

P. ~~undique~~ glabra; foliis ovali-  
bus argute dentato-serratis;  
racemo laxo brevi simplici,  
verticillastis <sup>multis</sup> ~~plurifloris~~; calyce  
quasi truncato, <sup>dentibus</sup> ~~lobis~~ brevissi-  
mis obtusis erectis; corollae ~~atque~~  
tubo dorso pubescente calyce  
duplo longiore (semi-pollicari).

Var. ?  $\beta$ . Ambigua: calyce glaber-  
rimo magis dentato, dentibus

tubo quadruplo triplo  
brevioribus; corollæ tubo  
calyce triplo longiore (sub-  
pollicari); foliis subtus nunc  
parce pilosis.

Hab. Hawaii, in the forest  
of Mouna Kea, at the elevation  
of 3000 feet. Var.  $\beta$ ? West  
Maui.

Branched, glabrous through-  
out, except along the upper side  
of the tube of the corolla. Leaves  
membranaceous, 3 or 4 inches long,  
 $1\frac{1}{2}$  to 2 inches wide, sharply ser-  
rate, tipped with a small acu-  
mination, obtuse or rounded at  
the base, on slender petioles. In-  
flouescence as in P. grandiflora,  
(except in the smoothness) i.e. the pedi-  
cels sessile or nearly so, but more  
numerous, from 7 to 11 in each cyme.

Calyx turbinate-campanulate,  
2½ lines long, repandly 5-toothed,  
the teeth very broad and obtuse,  
sometimes stronger, but ~~always~~  
never as much as one quarter of  
the length of the tube, not spread-  
ing. Tube of the <sup>white</sup> corolla about  
half an inch long; the large  
patent lower lip about the same  
length. Branches of the style  
very short; the stigmas nearly  
as in P. grandiflora.

The <sup>doubtful</sup> variety antigua, - of which  
we have only a single specimen, -  
is ambiguous between the present  
species and P. grandiflora, having  
a corolla of ~~the s~~ about the size  
and shape of the latter, and  
most of the leaves are sparingly  
pilose underneath. But these  
~~leaves are sharply serrate, the~~  
(calyces, pedicels (about 5 in each  
cymule), &c. are perfectly glabrous,



and the calyx-teeth, although manifest and of the same form as those of P. grandiflora, are much shorter and hardly spreading. Stigmas as in P. grandiflora, but rather more unequal, the lower one larger. I have reason to think, but am not certain, that this is the same as a <sup>specimen</sup> ~~plant~~ which Menzies also gathered on Maui, which is preserved in the herbarium of the British Museum, and which Bentham referred to his P. Chamissonis:— in which case, should it prove to ~~not~~ belong to a distinct species, as is likely, it may be named P. Menziesii.

4. Phyllostegia glabra, Benth.

<sup>(undique)</sup>  
P. glaberrima; foliis ovatis <sup>(serratis)</sup> basi  
rotundatis vel truncatis; racemo  
laxo thyrsideo, cymulis pleris-  
que pedunculatis trifloris; lobis  
calycis parvulis breviter lanceola-  
tis obtusiusculis vel obtusis tubo  
dimidio brevioribus, fructiferis  
vix ampliatis subpatentibus;  
corolla tubo calyce 2-3-plo  
longiore. — Variat calycis lobis  
angustioribus acutis seu latioribus  
obtusis vel obtusiusculis, fructiferis  
raro tubo aequilongis; corol-  
la subpollicari vel minore.

Prasium glabrum, <sup>(dimidio)</sup> Gand. Bot.

Joyce, Voy. p. 252, t. 64; <sup>floribus</sup> forma <sup>magiore</sup>  
Phyllostegia glabra, Benth. in Bot.  
Reg. no. 1292, & in Linnaea, b. p.  
79; forma ramosior parviflora.

P. Macraei, Benth. in Ob. l.c., p.  
554.

P. Chamissonis, Benth. in Linnaea,  
l.c., Lab. p. 551, & in Ob. l.c.;  
forma fl. majoribus.

Hab. Oahu, on the mountains  
behind Honolulu, and in the  
mountain defile across West Maui;  
gathered by nearly all collectors  
from Nelson and  
from Gaudichaud to Penny.

Gaudichaud's Plate represents  
the largest-flowered form; Benthem's  
P. glabra was described from <sup>branched</sup> speci-  
mens ~~mostly with short racemes and~~  
~~later~~ with smaller <sup>and probably later</sup> flowers.

The corolla "white tipped with pink",  
varies much in size; but in none  
of the specimens under examination  
does it rival that of P. grandiflora;  
~~common~~ in many it is only half an inch  
in length. All clearly belong to one species;  
and it is the only one with the cymules pedunculate, except



the dubious P. hisuta.

5. Phyllostegia parviflora, Benth.

P. molliter villosa <sup>(cula)</sup> vel pubescens;  
foliis <sup>seu ovato-oblongis</sup> ovatis serrato-crenatis  
basi rotundatis cordatisve;  
<sup>glanduloso- seu viscoso-villoso</sup> racemo laxo; verticillastris plerum  
que b-floris, pedicellis gracilibus;  
calycis lobis <sup>breviter</sup> lanceolatis, ~~brevibus~~  
<sup>tubo</sup> 2-3-~~phlo~~ <sup>brevioribus</sup> fructiferis vix ampliatis subpaten-  
tibus; corollae tubo puberulo  
calyce 2-3-phlo longiore (semipol-  
~~Drusium parviflorum, Gand.~~  
~~Bot. Frey. Voy. Frey. p. 453.~~  
~~lib.~~  
licari).

Var. a. Gaudichaudi: foliis subtus  
molliter ~~seu~~ mollissime pubes-  
centibus; racemis saepe panicu-  
latis; floribus parvulis; calyce ses-  
quilineari; corolla gracili; pe-  
dicellis saepius calyce ( $1\frac{1}{2}$ -lin.)

multo longioribus (3-6 lin.)  
nunc ~~eodem~~ <sup>tantum</sup> æquilongis.

Prasium parviflorum, Gand.  
Bot. Freyc. Voy. p. 453, t. 65,  
f. 1.

Phyllotegia parviflora, Benth.  
~~l.c.~~ in Linnaea, l.c. etc.

Var.  $\beta$ . glabriuscula: foliis caule=  
que subpubescentibus vel glabra=  
tis; floribus majoribus; pedicellis  
calyce (2-3 lin.) 2-3-flo longioribus;  
verticillatis interdum 8-floris.

Phyllotegia macrophylla, Benth.  
l.c., præsertim pl. Macraei.

Var.  $\gamma$ . mollis: <sup>undique</sup> mollissime velutino=  
pubescens, canescens; pedicellis  
calyce brevioribus vel subæquali=  
bus; corolla (4-5 lin.) ~~l.c.~~ calyce  
duplo longiore.

Phyllostegia mollis, Benth. in  
Linnaea, 6, p. 79, & in Ob. l. c.

Stat. Oahu and Maui, in  
mountain forests; gathered by most  
collectors. Var.  $\beta$ . Hawaii; not  
in the present collection; but a speci-  
men from the mountains behind  
Honolulu connects it with the  
~~type of the spec~~ first and ordinary  
form. Var.  $\gamma$ . West Maui; speci-  
men not well developed, more hoary  
than the ordinary form, probably  
growing under greater exposure.  
Oahu specimens with <sup>almost</sup> ~~neatly~~  
as short pedicels, <sup>rather shorter calyx-tube,</sup> and very soft  
velvety leaves, ~~which~~ are quite  
intermediate, showing that P.  
mollis belongs here, and not to P.  
clavata; the canescent form of which  
is silky-hirsute, the <sup>flowers larger and</sup> ~~calyx~~ with appres-  
sed strigulose pubescence, &c.



This is on the whole a large-leaved species, the amplex leaves being 6 inches, with and the petiole 2 inches, in length. The ~~variation in~~ diversity in the size of the flowers is hardly as great as in the preceding species. The corolla does not surpass half an inch in length, but is slender in var. a, thicker in  $\beta$ . ~~Abra~~ Upper branch of the style and its stigma commonly ~~smaller~~ smaller than the other.

Sp. nov.)

6. Phyllostegia stachyoides.

P. molliter pubescens; foliis ovato-lanceolatis <sup>acuminatis vix basi</sup> subcordatis crenato-serratis; racemo denso; verticillis <sup>scandentibus</sup> tris 10-14-floris; pedicellis <sup>glanduloso-pubescentibus</sup> calyce brevioribus; lobis calycis subulato-lanceolatis tubo paullo brevioribus; corollae pubescentis tubo calyce duplo longiore.

Hab. Hawaii, in the District of Waimoa.

The single specimen is from a branching plant, with the leaves much like those of P. racemosa, but tapering to an acute point and scarcely subcordate at the base, the short and soft pubescence less dense. The raceme is more compact and leafless, <sup>or</sup> ~~and~~ spiciform, even the fructiferous pedicels seldom more than

a line and a half long. ~~to~~ ~~leaves~~  
These are about five ~~from the~~ ~~and~~  
in each fascicle, and destitute  
of any common peduncle, as in  
most species of the genus. Calyx  
minutely pubescent and glandular,  
3 lines long, ~~in~~ ~~from~~ after flowering  
4 or 5 lines long; the lobes lanceo-  
late-subulate from a broad base,  
more attenuate-pointed than in any  
related species, rather rigid, some-  
what spreading. Corolla slender,  
probably white, rather thinly and  
finely pubescent, half an inch  
long. Style slightly clavate;  
the subclavate lobes ~~unequal~~ and  
stigmas unequal, the upper  
stigma smaller. — Additional  
specimens are wanted; but the  
species appears to be a well-marked  
one.



7. Phyllostegia clavata, Benth. l.c.

P. pubescens <sup>vel</sup> hirsuta pilis appres-  
sis; foliis ovatis seu ovato-  
lanceolatis subacutis basi ro-  
tundatis vix subcordatis crenato-  
serratis; verticillastis 6-14-floris;  
pedicellis calyce subaequilongis;  
lobis calycis strigosi late trian-  
gulari-ovatis obtusis tubo triplo  
brevioribus; corollae strigoso-pub-  
escentis tubo calyce triplo  
longiore; stylo apice clavato.  
— Variat. 1. foliis glabriusculis  
pedicellis fructiferis calyce 2-  
3-plo longioribus, et 2. ~~villosior~~,  
~~subineana~~ sericeo-villosa, canes-  
cens, lobis calycis paullo majoribus.

Ital. Hawaii, in the forest of  
Moua Kea, collected only by  
Macrae, and, in the canescently

hairy form, by our naturalists.  
The smoother form, apparently of  
this species, was gathered on Mani-  
by Kenny.

The leaves are larger than  
in the next species, ~~and~~ more or less  
acute or pointed, at most obscurely  
cordate at the base, and with a  
more minute pubescence. The  
specimens in the present collection,  
although manifestly of this spe-  
cies, are much more hairy than  
Macrae's. The younger leaves ~~under-~~  
~~neath~~ and the calyx very densely  
and canescently silky minute. As in  
the following and other species, the  
lower verticillastri, and in some spe-  
cimens <sup>nearly</sup> all of them, are in the axils  
of ordinary leaves; in others they  
are crowded in a naked virgate ra-  
ceme. Pedicels 2 or 3 lines long.  
Calyx 2 or rarely 3 lines long. Corolla

when well developed!)  
5 or 6 lines long, with a rather  
thick and strigosely hairy or silky  
tube. Style more clavate than  
usual at the summit; ~~the~~ <sup>the</sup> its  
upper lobe smaller, and with its  
stigma often abortive.

8: Phyllostegia racemosa, Benth. <sup>l.c.</sup>

P. <sup>villosula sensu</sup> tomentuloso-pubescent; foliis  
oblongis ~~sensu~~ ovato-lanceolatisve  
obtusis basi sapissime cordatis  
crenatis; verticillastris 8-12-floris;  
pedicellis brevissimis; lobis calycis  
tomentulosi ovatis obtusissimis  
tubo dimidio brevioribus, fruc-  
tiferis ~~tiferis~~ <sup>arctis</sup> patentibus;  
<sup>pubescente</sup> corolla calyce duplo longioribus.

Stat. Hawaii, in the forest of  
Moua Kea, where it was discovered



by Macrae.

Stems or branches <sup>(slender)</sup> elongated and ascending, with a fine and soft pubescence. Leaves small, only one or two inches long, with the petiole 3 to 6 lines long; the lower floral ones similar, the upper gradually decreasing; the one to 3 lower verticillastri often remote and shorter than their sublinging leaves. Pedicels barely one line, or at length a line and a half long, the fascicle sessile. Calyx 2, or at length 3, lines long, the very obtuse and foliaceous lobes at length almost as long as the tube. Corolla fully 4 lines long when well developed, white. Branches of the style <sup>often</sup> unequal, the upper one smaller, as in P. clavata.

9. Phyllostegia haplostachya, Sp. nov.

P. cano-tomentosa; foliis cordato-  
oblongis seu cordato-lanceola-  
tis crenatis; verticillastris bifloris,  
floribus subsessilibus in spicam  
simplicem virgatam digestis;  
calycis dentibus lato subulatis  
erectis tubo 3-4-plo brevioribus;  
corolla tubo longe exserto, lobis  
~~marginibus~~ crispis.

Var.  $\beta$ . leptostachya; foliis minor,  
foliis angustioribus e basi  
leviter cord minus cordata,  
pagina superiore calycibusque  
minutim tomentulosis nec albis  
incanis; floribus inferioribus  
dissitis.

Hab. In sands of the low

is *Artemisia* on Maui. Also collected by Kery on Hawaii.  
Var.  $\beta$ . On barren ridges of  
Kauai.

Stems erect, branched <sup>near</sup> ~~at~~  
the base, apparently only one or  
two feet high, white-tomentose,  
~~leafy to near~~ Leaves rugose-  
veiny, 2 or 3 inches long, and one  
or 2 inches broad at the deeply  
cordate <sup>cordate</sup>  
(or in the uppermost leaves truncate  
or slightly cordate) base, thence  
tapering to a blunt or bluntnish  
apex, evenly crenate; the lower  
surface softly tomentose, in the  
Hawaiian specimens of Kery very  
densely and whitely so, in ours  
from Maui only canescent; the  
upper surface greenish and finely  
velvety. <sup>Petioles 10 to 18 lines in length,</sup> Floral leaves all reduced  
to linear-lanceolate or subulate bracts,



The lowermost equalling the calyx,  
the others much shorter or minute.  
The spike therefore naked and  
more or less pedunculate, from  
3 to 6 inches long. Flowers in all  
instances solitary, in the axil of  
each bract, almost sessile, or  
the pedicel barely a line long.  
Calyx <sup>(3 or 4)</sup> ~~fully~~ 3 lines long, cyl-  
indraceous, densely white-tomen-  
tose, a little curved and the  
flower horizontally spreading in  
anthesis; the teeth nearly equal,  
a line in length, broadly subulate,  
rather acute, erect or connivent  
in fruit and not accrescent. Corol-  
la tomentose-pubescent externally,  
"white"; the tube nearly straight,  
8 or 9 lines long; the lips less un-  
equal than in other species, the  
upper one and the three lobes of  
the lower ~~are~~ rotund and with

strongly undulate - crisped margins, the lower lobe at length exceeding the lateral ones. Filaments hairy, as in the ~~rest of the~~ ~~genus~~. Other species. Anthers of the genus. So of the style, which however is ~~often~~ sometimes sparingly hairy towards the summit; it is <sup>somewhat</sup> clavately thickened ~~upward~~ above, and the short lobes are clavate and terminated by the truncate-dilated stigma of the genus. In one instance the lobes of the style and the stigmas were found to be connate ~~into~~ or confluent into one. Achenia ~~geminately subconnate~~ somewhat coherent in pairs, ~~app~~ probably drupaceous, but very thick and suberose-crustaceous, hairy at the summit, included at maturity in the then ovoid and nearly

closed calyx, instead of being  
<sup>or protruding from,</sup>  
exposed in ~~an~~ open or expanded  
calyx as in the other sections  
of Phyllostegia.

In the variety leptostachya, -  
to which the Hawaiian specimens  
approach as to the foliage, - the  
leaves are smaller as well as  
generally narrower (1½ to 2 inches  
long and 6 to 9 lines broad at the  
less cordate, or in the uppermost al-  
most truncate, base), less velvety  
or glabrate above, but densely  
white tomentose beneath, the  
margins finer crenulate; the  
pairs of flowers are more separa-  
ted (the lower an inch or more  
apart) and perhaps more spread-  
ing, and the calyx finely tomentu-  
lose, instead of white-tomentose. Fruit  
unknown. Possibly it is of a distinct  
species; but probably not.

This <sup>(species)</sup> and the nearly related P. trunc-  
ata, of Kemy's collection would natural-  
ly be taken for the type of a distinct  
genus; but I find no sufficient reason  
for their separation.



10. Phyllostegia floribunda Benth. <sup>l.c.</sup>

P. villosa-hirsuta; caule rigido; foliis ellipticis seu oblongo-oratis acuminatis crenato-serratis basi rotundatis vel obtusis; racemis brevibus plurifloris ex ~~axillis~~ axillis foliorum inferiorum, rachis pedicellis ~~que~~ filiformibus calycibusque patentibus hirsutissimis; calycis lobis linearibus tubo ~~max~~ <sup>sub</sup>aequilongis suo et corollae "late violaceae" subaequilongis.

Hab. Hawaii, in woods of the District of Puna. Before known only from the specimen gathered (probably on Hawaii) by Nelson in Cook's last voyage, and preserved in the Banksian herbarium.

Stem probably herbaceous:  
it is recorded as rigid, upright,  
18 inches to two feet high.  
Leaves thin and membranaceous,  
from  $2\frac{1}{2}$  to 7 inches ~~long~~, with  
the petiole one or two inches, in  
length. The inflorescence arises  
from the axils of the lower, then  
mostly fallen, leaves, and consists  
of nearly sessile and <sup>setosely hairy,</sup> leafless, ra=  
cemes, not cymes, in our speci=  
mens, and I believe in Nelson's  
also, although in that the flowers  
are more numerous and crowded.  
Pedicels in our plant solitary in  
the axil of each bract, in fruit 5  
or 6 lines long; the bracts  $1\frac{1}{2}$  to 3 lines  
long, the lowest and larger ones  
oblong or lanceolate and ~~so~~ foliaceous.  
Calyx 3 lines long, the tube at  
first cylindraceous, in fruit open=  
campanulate, the lobes <sup>equal,</sup> long and

slender. Corolla 4 or 5 lines long,  
"deep violet and ornamental", slightly  
pubescent, in conformation similar  
to that of P. parviflora, <sup>as likewise are</sup> the style  
and stigmas, ~~similar~~ <sup>Achenia</sup>  
fleshy, projecting from <sup>the open mouth of</sup> the  
tiferous calyx.



## 21. Stenogyne, Benth.

The corolla is more or less hairy or downy externally towards its summit in all the species, while the lower part of the tube is apt to be glabrous or glabrate, <sup>It is mostly rose-color or pink;</sup> its lower lip is ~~never longer and rarely as long~~ indeed are sometimes "subequal"; but in this genus it is the upper, not the lower, lower lip which is the larger, in some species strikingly so when fully developed, as in the small-leaved section, where the erect or more or less falcate incurved upper lip produced much beyond the short ~~lower~~ and three-cleft lower one, calls to mind the corolla of a Castilleja. The bearded annulus is wanting in S. rotundifolia and S. cordata, - therefore probably in S. sessilis, - and nearly so in what

I suppose to be S. macrantha. The  
stamens equal the upper lip, or  
are exerted beyond it. <sup>(known)</sup>  
[For a conspectus of the species,  
see Proceed. Amer. Acad. 5, p.]

1. Stenogyne rotundifolia, Sp. Nov.

1. caulibus basi suffuticosis aceto  
tetragonis ad angulos praesertim  
cum petiolis retrorsum hirsutis;  
foliis <sup>glabratis</sup> rotundis crenatis basi truncatis  
vix subcordatis; verticillastis  
bifloris; pedicellis petiolo dimidio  
brevioribus calyce glabro breviter  
dentato subaequilongis; filamentis  
villosis; corolla exannulata extus villosa.

Hab. East Maui, Sandwich  
Islands, on the banks of the crater  
of Mauna Haleakala.

Stems <sup>or branches</sup> erect or ascending, ~~square~~,  
from an apparently woody base,  
nearly simple, rigid,  
about a foot high, square, hirsute  
with short and rather rigid hairs, at  
least on the angles, where the pubes-  
cence is strongly retrorse. Leaves an



inch or a little more in length, <sup>and</sup>  
conspicuously petioled, elliptical-  
obicular, often retuse at the round-  
ed summit, either truncate or  
obscurely subcordate at the base,  
coriaceous in texture, sprinkled  
with some scattered hirsute hairs,  
at least when young,  
otherwise glabrous: the petiole half  
an inch long, hirsute with long  
and reflexed hairs, or at length gla-  
brate. Flowers axillary, as in the  
genus generally. Peduncle more or  
barely discernible; the setaceous  
bracts rather conspicuous. Pedicels  
1½ or 2 lines, or in fruit fully 3 lines  
in length, <sup>sparingly hairy,</sup> Calyx campanulate,  
perfectly glabrous, or rarely with one  
or two short scattered hairs, 3 lines  
long, very obscurely nerved; the  
limb scarcely oblique; the teeth as  
short and broad as those of *S. scirpular-*  
*oides*. Corolla 10 lines long, villous

Handwritten scribbles or marks.

Small handwritten mark or dot.

Handwritten marks or characters, possibly including the number '57'.

Handwritten marks or characters.

externally with a soft down, the throat little dilated and slightly oblique, the spreading lower lip a little shorter than the erect upper one. Stamens moderately exserted beyond the upper lip; the filaments bearded with long vilous hairs. No annulus ~~to~~ in the tube of the corolla, <sup>marked</sup> ~~Achenia~~ drupaceous, disposed to cohere in pairs, the putamen very thick and crustaceous.

Apparently a well-marked species,  
and most related to no. 381 of  
Kenny's collection, which I take  
to be a form of S. macrantha  
of Benthams, although it has  
smaller flowers and apparently  
smaller leaves than Macrae's



plant is described as having.\*

\* The following character is drawn from the plant of Kuny's collection:

Sterogyne macrantha (Benth.?).  
pilis patentibus indigne molliter  
hispidis; foliis subrotundis vel ovatis  
crenatis basi saepius cordatis sub-  
membranaceis longiuscule petiola-  
tis; verticillastris b-floris; pedicellis  
calyce 5-lobo aequilongis, utrisque  
hispidis; filamentis subnullis;  
corolla (subpollicari!) extus fere  
granulata extus sericea. — Hawaii,

Kuny, no. 381. — Divergently branched;  
the hairs, at least on the stem, with papillose-dilated bases.  
Leaves  $1\frac{1}{2}$  to  $2\frac{1}{2}$  inches long; the petiole 5 to 12  
lines long. Calyx  $4\frac{1}{2}$  to 5 lines long; the lobes more or less  
unequal, about 2 lines long, or the larger 3 lines  
long in fruit. Corolla not quite an inch long,  
~~in shape like *S. scaphularioides*~~ oblique at the  
dilated orifice, and with the lower lip decidedly shorter  
than the upper, whereas Macrae's plant is said to have  
"labio superiore vix inferiore brevior". Antherus reduced to  
five minute hairy tufts. Filaments slightly exceeding the  
upper lips, obscurely pubescent.

2. Sterogyne cordata, Benth.

(vel nisi nodos barbatos glabra;  
S. glabrata, foliis subpetiolatis  
ovatis basi pl. m. cordatis; <sup>crenulatis</sup> Verticil-  
lasteris 2-floris; cal pedicellis  
brevissimis; calyce quin inæqua-  
li, lobis acutis, antice tubo  
subæqu<sup>alibus</sup> longis; corolla exam-  
lata, labiis fere equilongis.  
~~Variet caule <sup>dequantitate</sup> assensu vel~~  
~~erecto, nunc~~

Sterogyne cordata, Benth, Lab.  
p. 654, & in Ob. Prodr. 12, p. 555.

Hab. Hawaii, in the District of  
Naiamea, and on the mountains of  
West Maui. Before only known in  
Nelson's collection, made in Cook's  
last voyage.

Plant only a foot or two in height,  
sometimes glabrous or nearly so, except

the nodes and the short petioles (these only a line long) which are bearded, and the pedicels (barely 2 lines in length) hirsute; in other specimens the <sup>calyxes</sup> leaves, &c. are sparsely hirsute. Branches slender, rather acutely 4-angled, very leafy. Leaves about an inch long, somewhat coriaceous, nervose-veined, mostly acute, slightly cordate. Flowers about equalling or the upper exceeding the leaves. Calyx .5 or 6 lines long, the elongated-campanulate tube nervose; ~~quite~~ the limb bilabiate, and a little more deeply cleft between the two anterior lobes, which however are a little shorter than the much less deeply cleft or barely three-toothed upper lip, the lobes or teeth ovate-triangular or triangular-lanceolate, all acute or pointed.



Corolla 9 or 10 lines long, canescently pubescent externally, or glabrate towards the base of the tube; the dilated throat little oblique and the lower lip ~~about~~ as long as the upper, its middle lobe somewhat exceeding the lateral ones: no trace of an annulus. Filaments not exceeding the upper lip, scarcely pubescent.

The nearly related S. sessilis has been collected only by Muir. The specimens, in the Banksian and Hookerian Herbaria, have larger, rounder, more rugose, and more closely sessile leaves than those <sup>(the lobes of the calyx broad and obtuse, and the young corolla larger; the stem hairy in the angles)</sup> of the present species. I know not whether the corolla is equally destitute of an annulus.

Stenogyne calaminthoides, Sp. Nov.

S. subglabra; caulibus decumben-  
tibus vel repentibus tetragonis  
ad angulos retrosum hirsutis; foliis  
rotundo-ovatis crenatis basi sub-  
cordatis <sup>longiuscule petiolatis</sup> truncatis ve subflaccidis;  
Verticillastris 6-8-floris; Pedicellis caly-  
cem vix aquantibus; dentibus caly-  
cis obtusis brevissimis; corollae  
elongatae superne puberulae labiis  
fere aquilongis.

Hab. Hawaii, in the forests of  
Mouna Kea and near the Lua Pele.  
also collected by Kunze.

Stems elongated, <sup>(often simple,</sup> square, usually  
more or less hirsute pubescent or puber-  
ulent on the sides, always retroscely  
hairy on the angles. Leaves one or  
two inches long, 9 to 18 lines broad, obtuse,  
rather membranaceous, glabrous or mi-

mentely and sparsely hairy, appearing  
glabrous to the naked eye: petioles  
4 to 6 lines long, pilose-ciliate. Pedicels  
in fruit 3 or 4 lines long, glabrous,  
as is the calyx; the latter 4 to 5, or  
in fruit even 6 lines long, with ob-  
scure veins, resembling that of the fol-  
lowing species, but more elongated,  
and the teeth (a line or a line and a  
half ~~to~~ in length) broader and rounder,  
and less unequal. Corolla above  
an inch long, strongly incurved,  
gradually dilated upwards, probably  
purple, the lower part glabrous, and  
the short lips almost equal in length.  
Filaments equalling the broad upper  
lip, slightly hairy. Annulus of the ~~cor~~  
corolla strongly bearded.

A well marked species, allied both to  
S. rotundifolia and to S. scrophularioides.



Stenogyne scrophularioides, Benth. <sup>L.C.</sup>

S. glabra, divaricato-ramosa; foliis  
ovatis ~~seu ovato-oblongis~~ acutis  
serratis basi rotundatis vel trunca-  
tis subflaccidis, petiolo gracili; ver-  
ticillastris saepissime 6-floris;  
pedicellis calyce breviter dentato lon-  
gioribus; corollae superne pubescens  
labiis subaequilongis.

Var.  $\beta$ . foliis oblongo-ovatis saepius acu-  
minatis argutius serratis floribusque  
majoribus.

Stenogyne Nelsonii, Benth. Lab.  
p. 55, & in DC. L.C.

Phagnalis montana, Nutt. in Herb.  
Book.

Stat. Hawaii (and Oahu, Nuttall);

in forests, gathered by most collectors; the variety  $\beta$ , collected by Nelson, Kuny, &c. not in the present collection.

The <sup>(specimens)</sup> ~~plant~~ of the present collection, gathered in the ascent of Moma Kea, is exactly that of Macrae; the leaves thin and flaccid, ovate, mostly acute, 12 to 18 lines long, with the slender petiole about half an inch long. Calyx 3 lines long, nearly nerveless, and with short, obtuse, more or less unequal teeth. Corolla 7 to 9 lines long, purple or pink, <sup>(when developed)</sup> glabrous or glabrate for the greater part of its length, but the limb silky-pubescent externally, especially in the bud. Filaments somewhat exceeding the upper lip, slightly hairy below. The plant of Menzies (which appears to be ~~exactly~~ Nuttall's Chaparral montana) is intermediate between the former and

the Nelson's plant upon which  
S. Nelsoni was founded. This last  
has larger, more paper, oblong-  
ovate and acute, sharply serrate  
leaves (as ~~are~~ the larger 3 inches long)  
and <sup>the calyx is supposed to be bilabiate through the</sup> ~~larger~~ <sup>upper lobes of the</sup> flowers, ~~the~~ corolla as  
large as in my S. calaminthoides,  
and glabrate; and the stamens  
are more exserted. Kuny's no.  
<sup>396</sup> 396 is about the same thing; but  
the corolla, an inch long when  
developed, and then mostly glabrate,  
is canescently silky-pubescent in  
the bud. The annulus is strongly  
bearded.



Stenogyne rugosa, Benth. l.c.

S. sapius glabra vel glabrata;  
foliis coriaceis rigidis oblongis  
sen ovato-oblongis basi rotunda-  
tis ~~vel~~ truncatis petiolatis cre-  
mato-serratis reticulatis nunc  
rugosulis; verticillastis plerumque  
b-floris; pedicellis calyce breviori-  
bus; calyce <sup>sub</sup>inaequali, lobis  
saepius mucronato-acutis vel  
acutissimis tubum subaequan-  
tibus; corollae <sup>breviscula</sup> labio inferiore paullo  
breviore. — Variat. 1, fere omnino  
(corollae excepta)  
glaberrima, laevis, seu pedicellis  
calycibusque hirsutulis; 2, hirsutu-  
la vel hispidula, foliis nunc ru-  
gosis asperulis; 3, pube brevi  
molli induta, verticillastis b-10-  
floris.

open and pastoral

Itab, Hawaii, in the ~~forest and~~<sup>open</sup> region of Manna Kea, &c., ascending to the elevation of <sup>9700</sup>~~4000~~ feet; ~~or more~~; also below on the coast. Apparently common: collected by Menzies, Macrae, and Kenny.

A well-marked species under all its variations as to pubescence, smoothness, or rugosity, but ~~rare~~ seldom deserving its specific name. Stems <sup>and one to three feet high,</sup> mostly erect, sometimes decumbent, obtusely angular or subterete, usually very smooth, herbaceous, ~~are~~ very leafy. Leaves from  $1\frac{1}{2}$  to  $3\frac{1}{2}$  inches long, with a petiole from half an inch to an inch in length, <sup>usually acute,</sup> sometimes thin and, but commonly thick and rigid as if growing in exposed places, ~~more~~ strongly nervose-veined and ~~very~~ finely venulose-reticulated, often not at all

rugose; and very smooth, some-  
times rugose and rough, either  
perfectly glabrous, slightly hispid  
beneath or on both ~~sides~~ surfaces,  
or in one form, from the district  
of Waima (probably near the  
coast) finely and softly downy,  
especially underneath, as are the  
branches, pedicels, and calyx; ~~the~~  
<sup>in shape varying from oblong-ovate to oblong lanceolate,</sup>  
<sup>traces of hispidity</sup> Pedicels  $1\frac{1}{2}$  to 3 lines long. Calyx 4 to  
5, or ~~in fruit~~ at after anthesis even  
6 lines long, prominently <sup>nervose;</sup> ~~5 or 6~~  
~~nerved~~ the lobes  $1\frac{1}{2}$  to  $2\frac{1}{2}$  lines long,  
at length rigid and more or less  
pointed, sometimes the two lower  
rather ~~blunt~~ obtuse in flower;  
the three upper more or less united,  
<sup>"pink or rose-colored,"</sup>  
Corolla 8 or 9 lines long, barely  
twice the length of the calyx,  
<sup>or only pubescent,</sup>  
~~externally~~ appressed-pubescent,  
except the lower part of the tube,  
<sup>annulus within strongly bearded;</sup>  
which is glabrous; the dilated throat



oblique, and the lower lip manifestly shorter than the upper. Filaments about the length of the upper lip, minutely glandular below.

An imperfect specimen from the mountains of Karai appears to belong to the second form of this species, except that the fructiferous calyx is less ~~more~~ evidently nerved, and its teeth are shorter.

C. Stenogyne angustifolia. Sp. nov.

S. glaberrima; caulibus fili-  
formibus, <sup>sarmentosis</sup> ~~sapius~~ procumben-  
tibus; ~~vel ses~~ foliis coriaceis  
oblongo-linearibus seu lineari-  
lanceolatis crenulato-serratis <sup>basi</sup> ~~X~~  
in petiolum angustatis; verticillas-  
tis bifloris; floribus fere praece-  
dentis, lobis calycis inferioribus tubo  
paullo longioribus; corolla glabrata.

Stat. Hawaii, in the District  
of Waimea, probably at no great  
elevation; also collected on Hawaii

by Kemy.

Stems extensively procumbent, decumbent, or sarmentose, slender. Leaves one or 2 inches long, 3 to 5 lines wide, mostly obtuse, thick and coriaceous, smooth, ~~opaque~~ dull, the petiole 3 to 5 lines long. Bracts, pedicels, &c. as in S. rugosa; but the latter solitary in the axils; the nervose calyx rather narrower, half an inch long, and the lobes broadly lanceolate, the two lower rather longer than the tube, the three upper ~~slight~~ united usually about half way up; the corolla almost glabrous, more nearly so than I have seen it in S. rugosa.

This is perhaps an extreme form of the last; but Kemy's specimens accord with ours in all respects; and the long trailing stems, narrow leaves with a ~~superior~~ contracted base, and solitary flowers are peculiar.

(quite)

7. Stenogyne microphylla, Benth. l.c.

S. glabra, diffuso-ramosissima, sub=  
scandens; foliis parvis oblongis <sup>grosse</sup>  
serratis vel incis basis in pe=  
tiolum marginatum angustatis;  
verticillastris bifloris; corolla extus  
puberula, labio superiore fal=  
cato ~~per~~ longe producto; stamin=  
ibus exsertis.

Stat. Hawaii; on Mouna Kea  
(where it was discovered by Macrae);  
commencing in the forest at the ele=  
vation of 5000 feet and extending to  
9500 feet, in the pastoral District.

"Full of branches, climbing", glabrous,  
except a minute hairiness at the nodes  
and in lines on some of the ultimate  
branchlets (especially in more rigid  
specimens gathered by Kerry), the branches



square. Leaves from 3 to 6 lines long, including the margined petiole, either submembranaceous or more rigid, acute, or sometimes obtuse, veiny, strongly and commonly sharply serrate or pinnatifid-incised. Pedicels solitary in the axils, one or two lines long, subtended by a pair of setaceous bracts. Calyx 3 lines long, strongly nerved, at least in fruit, campanulate, ~~somewhat~~ unequally 5-lobed in the manner of the genus; the lobes ovate-lanceolate, acute or acutish, nearly the length of the tube. Corolla about 7 lines long when fully developed, "green", externally minutely pubescent; the tube only a little surpassing the calyx, the <sup>upper</sup> ~~upper~~ portion with the narrow upper lip (3 or 4 lines long) falcate-incurved, very much exceeding the <sup>broad and</sup> three-lobed lower lip: anulus within conspicuously

bearded. Filaments and style at  
length surpassing the upper lip.  
Fruit, &c. as in the genus, in which  
this and the two following closely  
allied species compose a ~~good~~  
~~distinct~~ notable section.

8. Stemogyne crenata, Sp. M.

S. hispida, ramosissima, foliosissima; foliis parvis oblongis seu ovalibus obtusis grosse crenatis breviter (nunc brevissime) petiolatis; verticillastris bifloris; corolla extus hispida, labio superiore longiuscule producto; staminibus exsertis.

Hab. Mori, on the crater of Mouna Haleakala, from the elevation of 5300 to 9500 feet.

Differs from the preceding in the hispid ~~for~~ hairiness, which is retrorse ~~on the~~ and aculeolate on the acute angles of the stems; in the obtuse and crenate ~~of thick~~ leaves, some of which taper into a margined petiole, while others are abruptly conc



ted or rounded at the base, some with very short petioles or hardly any; and there<sup>re</sup> is less inequality in the lips of the corolla. Lobes of the calyx as long as the tube, rather obtuse. The branchlets in the specimen are not divaricate, but almost erect.

9. Stenogyne diffusa, sp. nov.

S. molliter villosa-pubescentis,  
divaricato-ramosissima; foliis  
parvis rotundis grosse crenatis  
basi truncatis vel subcordatis  
petiolatis; verticillastis bifloris;  
calycis lobis obtusis; corolla extus  
pubescente, labio superiore longe  
producto; staminibus exsertis.

Hub. Hawaii, District of Wai-  
mea; in forest.

This has the habit of S. microphylla, but is downy all over, and the small leaves are round and abruptly petioled; the blade-lamina  $1\frac{1}{2}$  or 2 lines long and wide, coarsely crenate or ~~even~~ obscurely 7-lobed; the rather slender petiole a line or a line and a half in length. Pedicels of the same length. Calyx as in the preceding, but more bilabiate or oblique, and the outer lobes obtuse. Corolla when fully developed 8 or 9 lines long ~~maroon~~ than in S. microphylla, less incurved, but falcate; its upper lip similarly produced (becoming 3 lines long), the short lobes of the lower one rather acute. Stamens at length

conspicuously exserted. Annulus  
of the corolla strongly bearded.

On the north bank of the great  
crater of the East Mani was  
gathered a specimen, ~~the~~ without  
flowers or fruit, of what is likely  
to be another species of this small-  
leaved section of Sterogyne. The  
leaves, however, are larger (half an  
inch long, besides the naked petiole  
a quarter of an inch long), ovate-sub-  
cordate or deltoid, ~~and~~ incisely or  
laciniately lobed, and with the  
diffuse branches cinereous-pu-  
bulent.



22. Prostanthera, Labill.

1. Prostanthera Sieberi, Benth.
2. Prostanthera denticulata, R. Br.
3. Prostanthera marifolia, R. Br.

Hab. New South Wales, all gathered in the vicinity of Sydney.

23. Hemigenia, R. Br.

1. Hemigenia purpurea, R. Br.

Hab. Sydney and Hunter's River, New South Wales. The species includes, H. Sieberi, Benth., as the forms collected clearly show.

24. Westringia, R. Br.

1. Westringia rosmariniformis, <sup>Smitt.</sup>

Hab. Sydney and Hunter's River,  
New South Wales.

25. Teucrium, Linn.

1. Teucrium bicolor, Smitt.

Hab. Chili; frequent on the  
ridges of the mountain slope back of  
Valparaiso, forming a many-stem-  
med shrub from 3 to 6 feet high.

2. Teucrium inflatum, Swartz.

Hab. Freije Island, on Vanua-  
levu and Mithuata, in cultiva-  
ted ground. (Collected at Sandy by Dr.  
Harvey.) Also recorded, among intro-

duced plants, by Dr. Pickering  
at Tongatabu, where it was  
long ago found by Forster. This  
tropical American species, allied  
to T. Canadense, has not been  
met with ~~at~~<sup>on</sup> any intermediate  
~~for~~ islands.

3. Tencrium argutum, R. Br.

Var.  $\beta$ . pinnatifidum: foliis lacini-  
iato-pinnatifidis vel sub-bi-  
pinnatifidis,

Hab. Hunter's River, New  
South Wales.

Except in the incision of the  
leaves, which are incisely and  
even doubly pinnatifid, this  
accords with Brown's T. argutum,  
so far as can be judged from  
the examination of a single dwarfed



specimen.

4. Tenarium betonicum, <sup>L'Her.</sup> 1

Stat. Madeira, on rocks at  
the Corral.

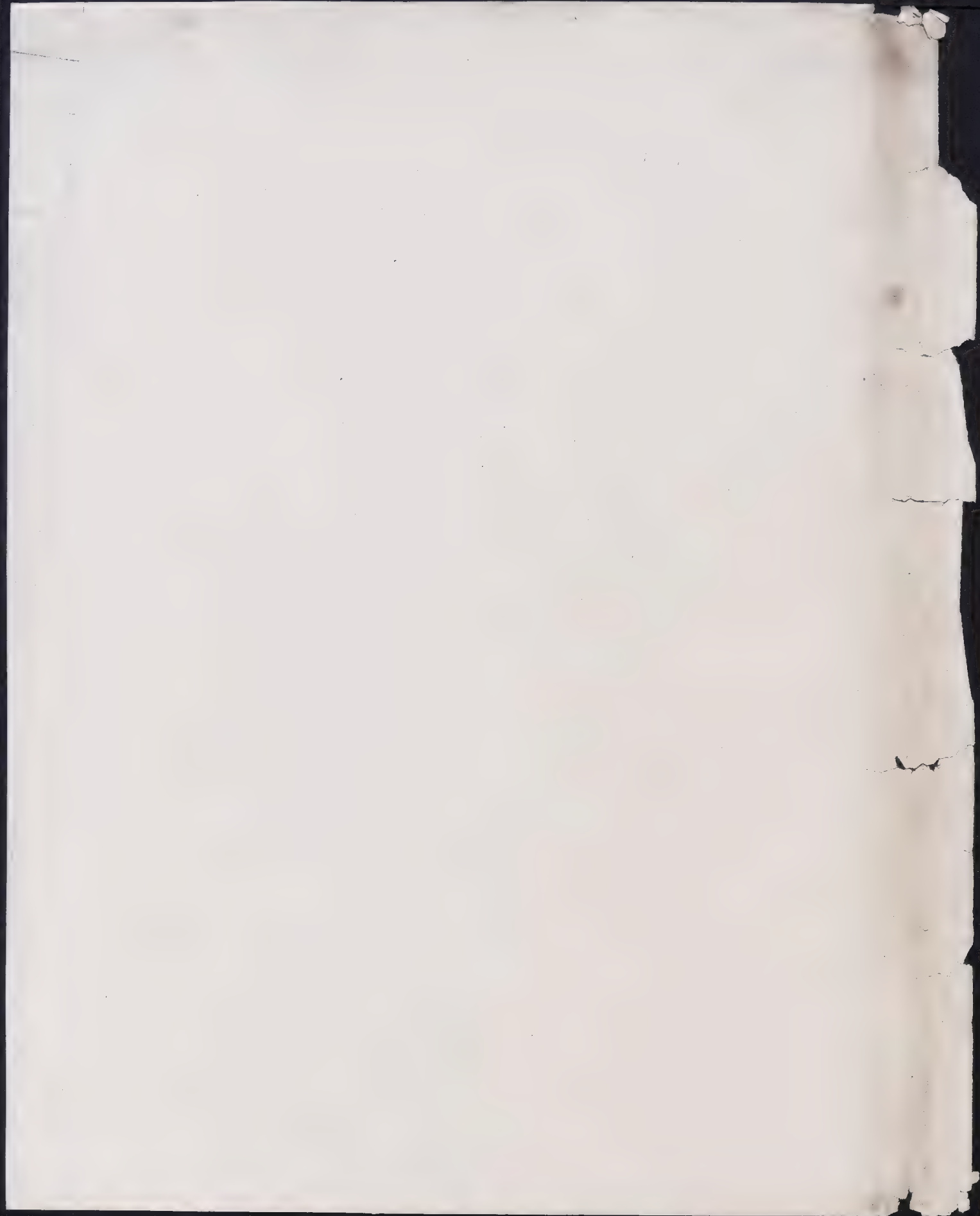
26. Ajuga, Lin.

1. Ajuga Iva, Schreb.

Stat. St. Jago, Cape de Verde  
Islands; on rocks.

2. Ajuga australis, R. Br.

Stat. New South Wales, at  
Hunter's River.



Ord. Plumbaginaceae

Statice Brasiliensis, Boiss. in  
 Dc. Prodr. 12, p. 644, — probably a  
 false form of the variety antarctica, and  
 more variety of S. Limonium, Linn.,  
 was collected at the mouth of Rio  
 Negro, North Patagonia.

Armeria vulgaris, Willd. the  
 form named A. Macleaniana, Cham.  
 was collected <sup>and near</sup> on the sea-coast, and  
 a dwarf variety of it (S. Armeria  
 var. alpina, Hook. f.) on mountain  
 summits, at Orange Harbour,  
 Fregia.

Plumbago scandens, Linn.,  
 at Rio Janeiro <sup>Pen near</sup> and at Lima.

Plumbago canulea, H. B. K.,  
 from near Olajillo, Pen.

Plumbago Zeylanica, Linn.,  
 from the Sandwich, Society, and Feeje  
 Islands



Plumbago rosea, L. (P. coccinea,  
Boiss.), from Luzon, in the vicin-  
ity of Manila.

Ord.

Plantaginaceae

Plantago major, Linn. was  
picked up at Madeira and St.  
Jago, Cape de Verde Islands.

Plantago lanceolata, Linn.,  
~~also at Madeira.~~

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— Plantago Lagopus, Linn., P.  
arborescens, Poir., and P. boveoporus,  
Linn., at Madeira.

Plantago Virginica, Linn., the  
~~short-stam~~ more fertile form with  
short stamens and corolla closed  
after flowering, from Rio Janeiro  
and the Argan Mountains, Brazil,  
answering to I know not what Brazil-  
ian species in the Prodrum. (P. brachys-  
tachys, Kunze, appears to be a substerile  
form of this species.)

Plantago hirtella, H.B.K., glabrate  
forms, from Rio Negro, North Patagonia,

Chile and Peru; also var. Or-  
bigynana, from the Andes of Peru,  
vide infra, no. 3.

~~the perennial root.~~

Plantago maritima, Linn., var.  
juncoides (P. juncoides, Lam.), - answer-  
ing to the plant of the eastern coast of  
North America, - from ~~the~~ the mouth  
of the Rio Negro, North Patagonia.

Plantago pauciflora, Lam.,  
in various forms, from Fuegia. vide  
infra.

Plantago uncialis, Decaisne, from  
the snow line on the Andes of  
Chile. vide infra.

Plantago tumida, Link (prob-  
ably only a form of P. hispidula,  
Kunz & Pav., distinguished from P.  
sericea by the annual root, therefore  
probably a form of the polymorphous



P. Patagonica), from Chili near Valparaiso,

● Plantago sericea, Ruiz & Pav., - to which Weddell has happily reduced most of the perennial American of the section in the Prodrromus (the annual ones being equally reducible to P. Patagonica), from the <sup>Andes</sup> ~~mountains~~ of Peru above Baños.

Plantago nubigena, St. B. K., from the high Andes of Peru, <sup>above</sup> ~~above~~ Baños, and at Casa Cuncha, B. i.

and it would seem probable, from Dr. Pickering's memoranda, that P. rigida, St. B. K., was also noticed in this region, out of flower, and not collected.

Plantago princeps, Cham. Schlecht. (including P. Inulniana, Gand., and several marked varieties), from the Sandwich Islands. vide infra.

Plantago pachyphylla, sp.  
nov., with several varieties, from the  
Sandwich Islands. Vide infra.

● Plantago varia, R. Br. from Hunter's  
River, New South Wales.

Plantago hispida, R. Br., Syd-  
ney, New South Wales.

Plantago debilis, R. Br., Sydney,  
New South Wales.

Plantago, Linn.

1. Plantago pauciflora, Lam.

Plantago pauciflora, Lam. Ill.

Gen. 1, p. 342; Koem. & Schult.

Syst. 3, p. 138; Barneoud, Plantag.

<sup>excl. var. a.</sup> p. 17; ~~Decaisne in Gay Ill. Chil. 5, p. 204.~~

P. barbata, Forst. Comm. Goett. 9,

t. 4; Hook. f. Fl. Antarctic. 2, p.

727; Decaisne in DC. Prodr. 13,

p. 727; ~~Wedd. Chilor. And. 2, p. 140.~~

P. polymorpha, Banks Island.

in bibl. Banks, cum icone, — no-  
men aptum sed ineditum.

P. monanthos, D'Urville in Mem.

Ac. Linn. Par. 4, p. 606; Gand.

Bot. Voy. Freyc. p. 133; Barneoud,

l.c. excl. syn.; Hook. f. l.c. p.

340, t. 121.

~~Wedd.~~

~~P. uncialis, Decaisne in Gay, Ill. Chil. l.c. p. 204.~~



Stat. Grange Harbour, Tued-  
gia; the var. laxa (P. monanthos  
a, Hook. f.), abreviata, muscoides  
● P. monanthos var. muscoides, Hook.  
f.) and barbata (P. barbata,  
Forst., Hook. f. var. a.); the var. mus-  
coides, "congested into a carpet-like  
surface, marked out into stars by its  
radiating crowns of short rigid leaves,  
only on mountain summits."

~~With~~ <sup>antartic plants</sup> The questionably these  
are all forms of one species. The  
distinctions between P. barbata and  
P. monanthos were reduced by  
Dr. Hooker to two, viz. the want  
of beard at the base of the leaves in  
the latter, and the broader and shorter  
basal part of the dehiscent capsule,  
scarcely exceeding the calyx, in the  
former. The <sup>first-mentioned</sup> ~~former~~ character would  
~~should~~ be expected to break down

on consideration of Dr. Hooker's varieties, and of what we know of ~~the~~ other species; and it does not coincide with the other <sup>character,</sup> For our good fruitful specimens of P. barbata have the funnel-shaped persistent portion of the capsule twice or thrice the length of the calyx; and our specimens of P. monanthos, <sup>from</sup> Hooker's collection on Hermit Island, ~~with entire narrow leaves,~~ show an abundant beard or wool at the base of the younger (long, narrow, and entire) leaves. Decaisne's distinction from the wules and seed is invalidated by Dr. Hooker's excellent figures, which give to P. monanthos four seeds in each cell. Forster's specific name of barbata, being inapplicable to the whole species, and not very much ~~so~~ earlier than Lamarck's may give way to the latter.

I hesitate to adduce Chilean  
synonyms, having no specimens  
referable to this species <sup>from anywhere</sup> north of Que-  
•bia; and the following related species  
is manifestly distinct.

2. Plantago uncialis, Decaisne

Plantago uncialis, Decaisne, in  
Barneud, Plantag. p. 42, & in  
Dc. Prodr. l.c.

P. pauciflora var. major, Barneud,  
l.c. p. 17?

P. barbata var. uncialis, Wedd.  
Chlor. And. 2, p. 160.

P. andicola, Gillies, in herb. Hook.

Hab. High Andes of Chili,  
above Santiago, close to the snow.

The caespitose rhizomata are  
thick, and crown a very stout fusi-



from root. Leaves glabrate, thick  
and rigid, ~~obtus~~ lanceolate-  
linear, rather obtuse, many of  
• them sparingly toothed, sometimes  
<sup>white-woolly in the axils,</sup> strongly so, Scapes in fruit  
an inch or an inch and a half  
long, exceeding the leaves, gla-  
brate, 2-4-flowered in a capitulum.  
Bracts orbicular-ovate, concave,  
very obtuse, <sup>(glabrous & nearly)</sup> scarious, ~~about~~ the  
length of the broadly ovate and very  
obtuse <sup>often mucronulate</sup> sepals. Lobes of the corolla  
reflexed in fruit, broadly ovate  
and as if subcordate, obtuse.  
Capsule globular-ellipsoidal, 4-  
seeded, dehiscent below the mid-  
dle, the persistent portion only  
half the length of the sepals.  
The latter character appears to distin-  
guish the species well from *P. bar-*  
*bata*, possibly some of Dr. Hooker's varieties  
of the latter belong here.

3. Plantago Mirtella, H.B.K.

Var.  $\beta$ . Orbignyana: mana, Mir-  
• tillo-prubescens vel Mirsuta;  
foliis sepe laciniato-dentatis;  
spicis brevibus.

Plantago Orbignyana, Wedd.  
Stimk. ex DeCaisne in DC.  
Prodr. 13, p. 704; Wedd. Chlor.  
And. 2, p. 159.

Var.  $\gamma$ . longifolia: foliis gla-  
bris integerrimis lanceolatis  
cum scapa et spica prolon-  
gis.

Hab. etc. Glabrate states of  
P. Mirtella were collected at the mouth  
of Rio Negro, North Patagonia,  
at Valparaiso, and at Obrajillo,  
Peru. The perennial root, as well

as the texture, etc., of the leaves  
ought to distinguish it well from  
any form of P. Virginica. All  
the specimens have the connivent-  
closed corolla and probably short stamens  
with small anthers of the analo-  
gous form of P. Virginica, except  
the specimens from Obrajillo: these  
have the corolla open, and the long  
stamens and style both exerted,  
and the ovary, in one of the two spe-  
cimens at least, is fruitful, as it  
occasionally is in the same form  
of P. Virginica.

The Var. Orbignyana was  
collected in the Andes of Peru,  
above Baños. It is evidently no  
more than a dwarf alpine form  
of P. hirtella, which inhabits the  
region ~~but lower down~~ just  
below. The specimens all have  
short stamens and connivent-



closed corolla; nevertheless it must not be hastily inferred that these flowers are self-fertilized, and are in no functional relation to their ~~long-st~~ counterpart with open corolla and exsert anthers. For, indeed, in these specimens the stigmatic summit of the style protrudes from the apex of closed corolla during anthesis; so that the dimorphism is intended for cross-fertilization, as in Primula and Horstonia; - only there seems small likelihood that pollen from the included stamens will ~~often~~ often fertilize the pistil of the long-stamined form. I have not been able to detect any such exserted styles in the allied P. Virginica, where however it may be expected to occur, In P. pusilla and P. heterophylla, Nutt., cross-ferti-

liration is facilitated by the corolla of the short-stamened and rather long-styled plants flowers being open at anthesis.

The var.?, longifolia is a dubious plant, collected at the mouth of the Rio Negro, North Patagonia, ~~only~~ a single specimen only.

4. Plantago princeps, Cham. & Schlecht.

Plantago princeps, Cham. & Schlecht.  
in Linnaea, 1. p. 167; Walp. Rel.  
Meyen. p. 402; DeCaisne in Ab.  
Proc. 13, p. 704.

P. Queleniana, Gand. ex Cham. &  
Schlecht. l. c., & Bot. Voy. Freyc. p.  
445, t. 50; Hook. & Arn. Bot. Beech.  
Voy. p. 93; Barneby, l. c. p. 47;  
DeCaisne, l. c. p. 700.

Var.  $\beta$ . *laxifolia*: caule } pedali;  
foliis magnis (4-7 pollicaribus)  
submembranaceis oblongo-lanceo-  
latis ovalibus sen obovatis basi in  
petiolum alatum angustatis 9-  
7-nerviis, basi laxius imbr-  
catis; capsula plerumque 5-sperma.

Var.  $\gamma$ . *hirtella*: foliis praesertim sub-  
tus cum pedunculis pilis crispatis  
hirtis, <sup>petiolis angustis</sup> capsula disperma: cet,  
fr. praecedentis.

Hab. Sandwich Islands: the typical  
 form on the Kaala Mountains, Oahu,  
 and a form intermediate between this  
 and Var.  $\beta$ . on the mountain of West  
 Maui. Var.  $\beta$ . *laxifolia*, Hawaii, at  
 the northern base of Mouna Kea, grow-  
 ing among stones by the sea-side. Var.  
 $\gamma$ . *hirtella*, on the tabular summit of  
 Kauai.



Chamisso recorded his opinion that Gandichand's P. Deulianiana would probably prove to be a ~~mere~~ form merely of P. princeps, and Burnett rightly combined them, but wrongly adopted the former name. No ground for specific distinction appears among the specimens of the Oahu plant, whatever may be thought as to the more marked forms which are here appended as varieties.

The typical form of P. princeps has lanceolate nervose leaves, about 6 inches long, crowded in a coma, like that of a young Dracena, upon the summit of a naked, annulate-scarred, simple or branched, ligneous caudex, from two to ten feet high. This passes variously into broader-leaved states, like that figured by

Gaudichaud, only generally more  
petiolate, and these, ~~into~~ it seems  
into the variety laxifolia. The  
ovules are two in each cell, or  
else two in one cell and only  
one in the other. Style and fila-  
ments both usually much elongated.

The var. laxifolia, except for  
transitional states, would inevit-  
ably be taken for a distinct  
species. From the station it  
might be thought to have descen-  
ded the mountain and have been  
altered by its warmer and mari-  
time situation; but <sup>*P. princeps*</sup> ~~the species~~  
is not known to occur on the moun-  
tains of Hawaii. This form  
blossoms and fruits while the stem  
is less than a foot high and barely  
lignous, but it becomes taller and  
truly woody, although fistulose. The  
leaves are less crowded, and mostly much  
broader, from 4 to 7 inches long and

1½ to 2½ broad, varying from oblong-lanceolate to oval or obovate, and narrowed at the base into a winged petiole of an inch or two in length. They are thinner and softer in texture, and their ribs or nerves (3 or 4 on each side) more separated, the larger ones rising from the midrib a good way up, and curving according to the breadth of the blade. The long spikes persist in fruit for some time after the subtending leaves fall off, and become pendulous. Seeds commonly 5!

The var. *γ*, *Mirtella* <sup>(would</sup> ~~may~~ <sup>smaller and</sup> fairly be regarded as a minute state of the preceding variety, but I found the ovules and seeds to be solitary in each cell.

All three may indeed prove to be distinct species; but they may with more probability be regarded as forms of one fruticose species, which varies



in an extraordinary manner, as plants of the Sandwich Islands are prone to do. The blossoms are hermaphrodite, but some appear to be more fertile than others. The style is prolonged in all the forms; and the filaments also are <sup>persisted</sup> ~~existed~~. The lobes of the corolla which <sup>remain</sup> ~~are~~ reflexed after flowering are truly acute or pointed.

P. Brongniartii, Barneoud, Plantag. p. 35, described from a single specimen of Gaudichaud's collection, which DeCaisne has not identified, from the narrow and very acute lobes of the corolla and the acute bracts would seem to be a <sup>degenerate</sup> state of the present rather than of the following species. Still, from its being placed near P. macrocarpa and P. virescens (which is P. eriopoda, Torr.), and the leaves described as fleshy

(one of the depauperate  
and obtuse, it may be of forms of  
the latter, erroneously characterized.

5. Plantago pachyphylla, Sp. Nov.  
(Tab. )

P. acaulis; candice crassissimo  
lanato; foliis crasso-coriaceis  
ovali-oblongis ligulato-lanceo-  
latisve integerrimis 5-11-nerviis  
glabris vel tomentulosis puberis-  
ve scapo multo brevioribus;  
spica elongata densiflora; flori-  
bis basi lanatis (nunc denum  
glabratis); bractea sepalisque ovatis  
obtusis vel obtusissimis; corollae  
lobis ovatis obtusis obtusissimis  
vel post anthesin acutatis; ovulis  
in loculo 2-4.

Var. a. Mariensis: latifolia; foliis  
9-11-nerviis (cum petiolo brevi  
lata 5-7 poll. longis <sup>(pedalibus)</sup> 1½-2 poll.  
latis) subtus scapisque lana  
decidua tomentosis; caudice  
erecto percrasso, ~~ovulis in locis~~  
subsexus masculinus, stamini-  
bus (stylogne) longe exsertis,  
ovulis (in to quoque loculo  
2-4) paucis gravidis.

Var. β. Havaiensis: caudice repente  
minus lanato; foliis ovato-lan-  
ceolatis latiuscule lanceolatis  
sen lineari-ligulatis raro den-  
ticulatis 5-9-nerviis in petiolum  
breviusculum vel brevissimum  
attenuatis cum scapo 1-2-pe-  
dali glabris vel hirsutiusculis,  
tomento saepius evanido; bracteis  
sepalis plerumque ciliolatis  
capsula <sup>ellipsoidea</sup> oblonga 4-6-sperma



paullo brevioribus. ~~subsexus fo-~~  
~~minatus~~ — Subvar. gracilis, ~~foliis~~  
longipes; petiolo gracili 1-2½-  
• pollicari <sup>lamina</sup> ~~simili~~ lanceolato-ob-  
<sup>(3-5-nervi)</sup> longa aquali; scapo gracili;  
spica laxiflora; capsula oblonga  
calycem subduplo superante.

Var. γ. Kavaensis; depauperata;  
foliis oblongis cum petiolo lato  
brevissimo sesqui-bipollicari-  
bus; spica laxiflora cum sca-  
po gracillimo semipedali;  
cat. var. β.

Hab. Sandrich Islands. var.  
α. Maui, on Momua Halea-  
kala to the elevation of 7500 feet.  
"Apparently the same species on the  
tabular summit of Kauai", ac-  
cording to Dr. Pickering. Var. β. Haw-  
aii, on Momua Kea and Momua

Koa to the elevation of 6000 to 8000  
feet and in the environs of the  
Great Crater. The subvar. gracilis,  
● Hawaii, Kuny, no. 429. Var. V.  
On the tabular summit of Kanai.

Of the <sup>stinking</sup> plant taken as the type  
of this species, only a single specimen  
was gathered, in flower. It will be  
seen to resemble closely, Dr Horke's  
P. Aucklandica, from the Aucklandica,  
from the Auckland Islands, while P.  
principis resembles P. Fernandezia, of  
Juan Fernandez. We do not possess  
specimens of either of these southern spe-  
cies. The present plant differs from  
P. Aucklandica in the pubescence and  
in having at least more than one  
ovule and seed in each cell. It is  
acaulous; the <sup>short and</sup> very thick caudex  
apparently not rising above the  
ground, sending off rootlets from its  
whole length, clothed with the vestiges of  
former leaves and with a dense coating

of long and rusty wool. Leaves in a close radical cluster, 5 to 7 inches long, about 2 inches broad, oval-oblong or elliptical with a short narrowed or petiole-like base, entire, very thick and coriaceous, ribbed with from 9 to 11 parallel nerves, which are impressed above and rather prominent beneath, glabrous or soon glabrate above, tomentose and also <sup>with</sup> somewhat hispid pubescence underneath, the wool somewhat deciduous with age. Scape a foot or more in length, compressed towards the base, clothed as is the whole rhachis, with a ~~dense~~ copious floccose wool. Flowers crowded in a ~~spike~~ dense spike of 5 to 10 inches in length, sessile, glabrous, ~~except~~ but surrounded at the base by a tuft of long woolly hairs. Bract ovate, obtuse, glabrous <sup>except when young,</sup> or nearly so, about equalling the calyx. Sepals ovate, obtuse, ~~thickish~~ with thickish scarious margins and a green keel, naked, or ~~have~~ ciliate at the tip with



fine woolly hairs, which are deciduous, <sup>with its tube slightly</sup> Corolla ~~a little~~ larger than the calyx; the lobes ovate and obtuse or obtusish, spreading after anthesis. Filaments and style ~~very~~ <sup>much</sup> elongated. Ovules 2, and I believe sometimes 4, in each cell. Fruit unknown. The flowers in the specimen not disposed to fertilize.

The var. Hawaiensis occurs under several forms, and conspicuously differs from the plant of Maui in the leaves, which are narrower, ~~varying from~~ oblong-<sup>or ligulate</sup> or elliptical-lanceolate, ~~to~~ or broadly lanceolate, from 4 to 6 inches long, and from 6 to 12 or even 15 lines wide; the nerves usually fewer. The calyx is smaller and ~~smaller~~ apparently ~~enlarging~~. The tomentum of the leaves and scape slight or early deciduous, or replaced with more persistent pubescence. Spike ~~in~~ fruit less dense, a foot <sup>long</sup> or in length. Sepals broadly ovate and

very obtuse, for the most part cili-  
ate or ciliolate. Lobes of the corolla  
obtuse or even retuse, but some-  
times apparently becoming acute after  
anthesis, <sup>usually mostly 4 in each cell</sup> Capsule maturing 3 to  
5 small seeds, which are scarcely  
hollowed on their inner face. -  
No two species appear more distinct  
than do the var.  $\gamma$  from  $\alpha$ , but  
Remy's no. 429 unites the latter  
with var.  $\beta$ , and one Hawaiian spec-  
imen is quite intermediate between  
 $\beta$  and  $\alpha$ , so that the whole se-  
ries must be regarded as of one  
polymorphous species.

Plate      Plantago platyphylla  
 $\alpha$ , Mariensis, of the natural size,  
Fig. 1. Flower and bract, 2, Corolla,  
stamens and pistil, 3. The latter dis-  
played, 4. Transverse section of the ovary,  
5. Longitudinal section of the ovary.  
The details variously magnified.

Ord.

Nyctaginaceae.

Pisonia grandis, Parkinson, R. Br.

(P. inermis, Forst., non Jacq.\* P. procera,  
Bertero, Deless. Ic. Sel. t. 87. P. Brunneriana,  
Engl.), known from the rest by having  
the fruit muciculate with glands, the leaves  
usually rounded at the base, and pieces of  
the short limb of the perianth complete.  
Coral Islands generally, Samoan Islands;

\*

Dr. Seemann, in his Journal of Botany,  
1. p. 246, proposes to adopt Forster's specific name ~~fixed~~  
~~by the latter on the ground~~ ~~because~~ (taken from Jacquin),  
on the ground that Linnaeus had in manuscript notes  
struck out every thing upon which he had founded his,  
Pisonia mitis, and referred to it instead Jacquin's  
P. inermis. Evidently that will not do at all.

There is nothing to take precedence of the American  
P. inermis, Jacq.



also in other collections ~~from~~ (but not in  
ours) from the <sup>Sandwich</sup> Society, and Feejee Islands.

Pisonia excelsa, Blume, (P. macrocarpa, Presl. Synb. t. 56. P. Fosteriana, Enol. in Rel. Meyer. t. 51. P. Sinclairii, Hook. & Ar. Bot. Beech. t. 50. (All these with good figures.) P. sylvestris, <sup>P. mitis, Enol.</sup> Teesm. } P. viscida, Seem. in Monpl. P. umbellifera, Seem. l. c. & in Jour. Bot. 1. p. 244. \*) — remarkable for its long and narrow, smooth fruit ( $1\frac{1}{4}$  to 2 inches long), more or less striate or costate, and commonly by the absence of ~~pl~~ or incompleteness of the plicae of the perianth. In our collection only from the Sandwich Islands, but a widely spread Oceanic and Australian species.

\* Dr. Seemann (l. c.), having recently ascertained that this is the obscure Beodes umbellifera of Foster (founded on male flowers only), has proposed to restore Foster's specific name. But the rules of nomenclature do not in such cases demand the restoration of the older and obscure name, given under another genus, especially where inappropriate, as in the present instance.

Pisonia minor, Choisy? Brazil,  
near Rio Janeiro; where other species were  
noticed.

Boerhaavia <sup>(erecta, Linn., and B.</sup>  
repens, Linn. St. Jago,  
Cape de Verde Islands.

Boerhaavia paniculata, Rich. Brazil  
near Rio Janeiro.

Boerhaavia discolor, HBK. and B.  
viscosa, Lag., Chili.

Boerhaavia diffusa, Linn., the var.  
obtusifolia on the Coral Islands generally;  
the var. acutifolia on Wakes' Island,  
Sandwich Islands, Samoa, and the Phil-  
ippine Islands; both forms at the Society  
Islands. Also New Holland.

Boerhaavia hirsuta, Willd. Birnie's  
Island, one of the Coral Islands. An  
American species, found also on the Gala-  
pagos.

Colignonia scandens, Benth., or  
near it, certainly the same as Matthews's  
no 3122, ~~from~~ The floral leaves white, - from the  
environs of Obrajillo, Peru.

Ord. Amaranaceae.

Amarantus melancholicus, Linn.,  
var tricolor, Lam. was collected at the  
Fiji Islands.

Amarantus retroflexus, Linn., at Val-  
paraiso.

Amarantus paniculatus, Linn., var. strictus,  
Moq., at Madeira.

Euxolus viridis, Moq., at Rio Janeiro,  
the Samoan and the Society Islands  
(mostly the var. candatus, E. candatus, Moq.) ;  
and a low, condensed form from Rio Negro,  
North Patagonia.

Euxolus deflexus, Raf., at Valparaiso,  
Chile.

Euxolus lineatus, Moq., at the  
Sandwich Islands, viz. Hawaii, a



male plant, and Kauai, a female; -  
for the Sandwichian plant appears  
to be dioecious, Macrae also gath-  
ered the female on Oahu. I have  
not the means of comparing with the  
Australian plant. It is to be noticed  
that Dr. Pickering <sup>regards it as introduced</sup> ~~speaks of the plant~~  
into the Sandwich Islands.

Chamissoa altissima, H. B. K., at  
Rio Janeiro.

Charpentiera obovata and C. ovata,  
Gardich., at Oahu, Sandwich Islands.  
The two species appear <sup>(on the whole,</sup> to hold their char-  
acters. The latter was first collected by  
Menzies. Its nearly ripe fruit shows  
an evident disposition to be circum-  
scissile, as in Chamissoa. On the  
other hand there is ~~no~~ anthers.  
<sup>vide infra.</sup> Achyranthes mutica, sp. nov., Sandwich Islands,  
Achyranthes aspera, Linn. (inclu-  
ding A. argentea, Lam.), Cape de Verde,  
<sup>Sagwan,</sup> ~~Islands~~, Feejee, ~~and~~ Society, Mangsi,  
and Philippine Islands.

Achyranthes canescens, R. Br.  
Freeze Islands; and a larger-leaved  
form (A. velutina, Hook. & Arn. exch.  
pl. Sandw.) from the Coral and the  
Society Islands.

Achyranthes splendens, Mart. in DC.  
(A. velutina, Hook. & Arn. pro parte),  
Oahu and Maui, Sandwich Island,  
on the coast. Besides the <sup>(fine)</sup> shining,  
silky tomentum, this has stouter and  
denser sub sessile spikes, larger more  
lanceolate flowers, and less cartilagi-  
nous <sup>(and more)</sup> carinate scarious-margined  
sepals than the preceding. (A. bi-  
dentata, Blume, was also collected at the  
Sandwich Islands, by Kemy.)  
Nassanthus diffusa, R. Br., at Hunter's River, New South  
Wales. Cyathula prostrata, Blume,  
at the Freeze, ~~Samoan~~, and Philippine  
Islands.

Aerva javanica, Juss., at St. Jago,  
Cape de Verde Island.

Aerva lanata, Juss. at Manila,  
Luzon.

Ptilotus (Nototrichium) Sandwicensis, nov. sp. Sandwich Island,  
vide infra.

Trichium seligmanni, A.  
Burm., at Hunter's River, New  
South Wales

Belosia argentea, Linn., picked  
up near Manilla.

Belosia grandifolia, Moq., at  
Rio Janeiro, Brazil.

Belosia longifolia, Mart., with  
the preceding.

Iresine eriantha Poir. (Iteba-  
the virgata, Mart.), at Rio Janeiro,  
in the Organ Mountains, near Rio  
Janeiro.

~~Megisthanes straminea, Mart., at~~  
~~Rio Janeiro and M. ramosissima, from~~  
~~Brazil, near Rio Janeiro.~~

Leeringia baccata, Moq. (D. Celosi-  
oides, K. Br.) at the Feejee Island and  
Luzon; and D. Indica, Zollinger, at the latter.



Mogiphanes straminea, Mart.,  
M. multicaulis, Mart. (referred to the  
above by Grisebach), and M. ra-  
• mosissima, Mart. (Species of Telan-  
thera, Moq.), all from the vicinity  
of Rio Janeiro.

Mogiphanes (Brandesia) pubiflora,  
(Telanthera pubiflora, Moq.), under  
several forms, in Peru, from Lima  
• to Obrajillo.

Mogiphanes (Brandesia) elongata Bar.  
nigricaps (Telanthera elongata,  $\beta$ . nigri-  
caps, Moq.), at Obrajillo, Peru.

Mogiphanes (Brandesia) andicola,  
(Telanthera andicola, Moq.), in the  
high Andes of Peru, near Casa Cuncha,

Mogiphanes (Brandesia? tomentosa?  
(Telanthera tomentosa, Moq.?), but with  
the heads mostly sessile or nearly so, at  
Obrajillo, Peru.

Philoxerus portulacoides, A. St. Hil.  
(Iresine portulacoides, Moq.), which bears  
no wool at the base of any of the  
sepals, on the coast of Brazil at  
Rio Janeiro.

Philoxerus vermiculatus, R. Br. (incl.  
P. aggregatus, J. B. K.), with the preceding.  
Alternanthera ficoidea, R. Br.  
(Bucholzia maritima, Mart. Telanthera  
maritima, Moq.), with the preceding; also  
Tangatabu.

Alternanthera frutescens (Telanthera  
frutescens, Moq.), at Callao, Peru.

Alternanthera paronychioides, <sup>A.</sup> St.  
Hil., at Rio Janeiro, Brazil.

Alternanthera sessilis, R. Br., at  
Hunter's River, New South Wales.

(including A. nodiflora & A. denticulata),

1. Achysanthes, Linn.

1. Achysanthes (Achysanthes) mutica, <sup>W.</sup> sp.

A. glabella; caule fruticoso ramosis-  
simo; foliis obovatis spatulatis seu  
fere lanceolatis obtusis viridibus in  
petiolum ~~tenues~~ gracilem attenua-  
tis; spicis ovatis semilibus <sup>nunc paucifloris,</sup> densifloris,  
rachis subvillosa; bracteis bracteolisque  
late ovatis <sup>patente</sup> mucronatis flore 2-3-pho-  
berrimis; sepalis 5 ovato-lanceola-  
tis obtusiusculis coriaceo-paleaceis tri-  
nerviis; staminibus antheriferis 5;  
staminodii oblongis apice laciniatis  
filamenta adaequantibus.

Stat. Sandrich Island; Kaala  
Mountains, Oahu; a narrow-leaved  
form without flowers. The species is here



characterised from a flowering specimen  
of Kunig's collection, from <sup>(the island of)</sup> Kanai.

This species, which seems to combine  
Moquima's first two sections of *Achyran-*  
*this*, is manifestly a <sup>permanens</sup> congener of ~~the~~  
Brown's *A. arborescens* of ~~the~~ Norfolk  
Island. The bracts are mucous. Flowers  
<sup>glabrous,</sup> two lines long, in small heads or  
spikes which are sessile in the upper axils  
and terminal and scarcely surpassing  
the petioles. Stamens remarkably  
large, deeply lacinate at the truncate  
apex. Style, &c. of the genus. Leaves  
one to nearly two inches long, including  
the petiole, almost glabrous, the nascent  
ones, with the shoots, and especially the  
nodes, pubescent.

Miss A

St. Louis post to

London, May 1897

## 2. Ptilotus, R. Br.

Ptilotus, R. Br. Prodr. Fl. N. Holl. p. 415.

Psilotrichum (Blume) & Ptilotus, Moq. in  
Dc. Prodr. 13. p. 279, 281.

1. Ptilotus (<sup>Nototrichium</sup>~~Psilotrichum~~) <sup>Sp. Nov.</sup> Sandwicensis,

P. fruticosus, tomentoso-sericeus; foliis  
oppositis petiolaris ovatis ovalibusque  
nunc obovatis subtus incanis; spicis  
pedunculatis vel. ad apicem pedunculi  
terminato-confertis ovatis v. cylindraceis  
sepalis <sup>ovato</sup> ~~lanceolatis~~ <sup>obtusis</sup> oblongis } dorso  
cum bracteis rhachique villor-  
simis, fructiferis conniventibus.

Var a. ramis floriferis etiam lignescen-  
tibus; foliis ovatis nunc ovato-lanceolatis  
plerisque acuminatis, rarius ovali-  
oblongis obtusis basi pl. m. attenuatis.



Var.  $\beta$ . Kauaiensis: ramis fere herba-  
ceis; foliis obovatis oblongissimis basi  
magis attenuatis subtus tomento  
subaurato.

Hab. Sandwich Islands: Kauai  
near the coast, where, as well as on Oahu,  
it was also collected by Kuny. Var.  $\beta$ .  
Coast of Kauai.

A shrub, "4 or 5 feet high," much branched.  
Leaves all opposite, one or two inches long,  
including the slender petiole, pinnately  
veined, clothed with a fine silky tomentum,  
greenish above, canescent beneath, some-  
times with a yellowish tinge. Spikes very  
numerous, terminal and from the upper  
axils, on short or rather long and slender  
peduncles, very villous-lanate, half  
an inch or less in length. Bract persistent,  
shorter than the <sup>ovate, acuminate, almost</sup> flower, ~~nearly~~ concealed  
in the long hairs of the rachis. Bract-  
lets deciduous with the flower, <sup>ovate-</sup> subulate.

Sepals equal, of rather firm texture but with scarious margins,  $1\frac{1}{2}$  to 2 lines long, ovate-oblong or ovate-lanceolate, obtuse or acutish, beset on the back (but not on the scarious margins) with long villous hairs, in fruit closed and more rigid. Stamens 5, included: filaments <sup>monadelphous at the base.</sup> subulate, anthers short-oblong, two-celled: no intermediate filaments or teeth. Utricle thin, rupturing at the base. Style elongated, filiform: stigma simple, capitate. Seed large. Embryo coiled in more than a circle: radicle ascending.

The specimens from Kauai (B. kavensis), besides their more herbaceous character, have rather larger and obovate, very obtuse leaves; but probably the difference is not specific.

In referring the Indian species which

he had formerly named Psilotrichum  
ovatum to Ptilotus (on account of the  
villous fringe to the inner sepals) Moquin-

Tandon neglected to mention that its  
leaves are opposite. I may add that there  
are obsolete teeth between the filaments.

The Sandwich Island type, with  
opposite leaves and woolly spikes, the  
villosity on the back and not the ~~margins~~  
margins of the sepals. (Psilotrichum), Psi-  
lotrichum, with opposite leaves and glabrous  
or pubescent flowers, Pharnostachys, with  
opposite leaves and the inner sepals vil-  
lous-fringed, and the original Ptilotus,  
N. Br. with alternate <sup>narrow</sup> leaves, and the in-  
ner sepals villous-fringed, are all doubt-  
less ~~to be~~ sections of one genus rather  
than separate genera.





Ord. Chenopodiaceae.

● Rhagodia baccata, Moq.,  
the Chenopodium baccatum of  
Labillardiere ( R. Billardieri, K.  
Br.), was collected at Moolung,  
New South Wales.

Rhagodia nutans, K. Br., at  
Hunter's River, New South Wales.

Chenopodium lanceolatum,  
K. Br., an incomplete specimen,  
from Hunter's River New South  
Wales, which almost exactly ac-  
cords with C. Bozeianum, Moq., or  
C. leptophyllum, Nutt.,  
the C. album var. leptophyllum,  
Moq. in Ob. Prodr., of California, K.  
(= Fendler's no. 718.).

Chenopodium Sandwichiense,  
Moq., on Oahu and Hawaii, both  
on the plains by the coast and on  
the mountains; <sup>also a form of it with less slender petioles on Maui;</sup> the flowers tending

to polygamo-dioecious, the pistillate with elongated branches to the style and abortive stamens.

- (The C. album var. candicans, Moq., <sup>det. H. B. K.</sup> StriPLEX Oahuensis, Meyen, not collected.)

Chenopodium murale, Linn.,  
picked up at Rio Janeiro, Brazil.

Chenopodium album, Linn.,  
at Valparaiso, Chili.

Chenopodium glaucum, <sup>(Linn.)</sup> ~~A.~~, at  
the Bay of Islands, New Zealand.

Chenopodium ambrosioides, Linn.,  
in various forms, from Valparaiso  
and Callao, Peru, also St. Helena.

Chenopodium Chilense, Schrad.,  
from Valparaiso, Chili.

<sup>Noultia multifida, Moq., from Rio Negro, N. Patagonia.</sup>  
Blitum (Orthosporum) glauc-  
diloum, Moq., Hunter's River, New  
South Wales.

Obione rotundifolia, Moq.,  
collected, without flower or fruit, on



the Island of San Lorenzo, at  
Callao, Peru.

● Obione Lampa, Moq. (Atriplex,  
Willis), collected on the cliffs at  
the Rio Negro, North Patagonia,  
with almost pinnatifid leaves,  
but destitute of flowers and fruit,  
but with a pair of pinnatifid bracts.

Obione Montevideensis, Moq.<sup>3</sup> (Atri-  
plex, Spreng.) from the mouth of  
the Rio Negro, a "procumbent,  
hoary, small-leaved" species, mo-  
naecious, with rounded lacinate  
involucres.

Obione Patagonica, Moq.?, with  
the above, "upright, hoary," dioecious,  
with the bracts of the involucre  
perfectly entire, <sup>thick and coriaceous,</sup> their back also  
smooth and even in most of the  
specimens, but occasionally bearing  
<sup>more or less salient,</sup>  
one or two, <sup>^</sup> tubercles or crests.

Obione undulata, Moq. Mixed  
with the specimens of the above species

was a single loose fruit of this species, according to the character.

~~Threlkeldia diffusa, R. Br., from Hunter's River, New South Wales.~~

Salicornia Gaudichaudiana, Moq., from the coast at Rio Janeiro, Brazil, <sup>(apparently the same from)</sup> and Rio Negro, North Patagonia.

Salicornia Peruviana, HBK. from the ~~east~~ coast of Peru at Lima and Callao: specimens without <sup>also</sup> good fruit or flowers; probably S. ambigua, Michx., and even S. fruticosa, L. (Arthrocnemum, Moq.), and <sup>(perhaps)</sup> ~~not~~ the not, Salicornia Indica, Willd., ex Hook. f., from New Zealand and the coast of New South Wales; the embryo conduplicate and no albumen (in the New Zealand specimens); <sup>men</sup> therefore a good Salicornia.

Suaeda fruticosa, Hook., var. (S. laxifolia, Lowe) from Madeira; also a form with more slender, spreading

or recurved leaves (S. Stelmae,  
Moq.) from St. Stelmae.

Suaeda foliosa, Moq. from  
Callao, Peru, and Lima, on the desert  
upland.

Suaeda involucellata, nov. sp.,  
from Rio Negro, North Patagonia; vide  
infra.

Suaeda (Chenopodiina, Moq.) ma-  
ritima, Dumort., from the mouth  
of the Rio Negro, North Patagonia.

~~Suaeda australis~~

Suaeda (Chenopodiina) australis,  
Moq. from Hunter's River, New  
South Wales.

Salsola Kali, Linn., from the  
coast of Chili at Valparaiso.

And the following may be here  
appended: -

Mellocia Peruviana, Moq. in  
Ob. Prodr. 13<sup>2</sup>, p. 225, - as well as can  
be judged from a fragment preserved  
and from Dr. Pickering's note, - from



the environs of Obajillo, Peru.

Batis maritima, Linn., from the coast of Peru at Callao:— fruit and female flowers only, — so that it is not known whether the male flowers accord with Dr. Torrey's B. californica.

Sesuvium Portulacastrum, Linn., was collected also at the Sandrich Islands, on Oahu: specimens misplaced.

## Suaeda, Forsk.

1. Suaeda involucellata, Sp. Nov.

S. fruticosa, <sup>erecta,</sup> glabra; ramis rigidis crassis; foliis lato-linearibus muculentis obtusis; floribus in axillis 1-3 sessilibus, singulis involu-  
lo ~~5-phy 5-phy~~ 5-squamoso caly-  
cem dimidium subequante sup-

fulvis; calyce fructifero globoso  
subcarnoso; stigmatibus 4-6;  
(pericarpio membranaceo)  
semine verticali; turgido margine  
convexo laevi nitido.

Itab. Mouth of the Rio Negro,  
North Patagonia.

A "shrub, with linear succu-  
lent leaves, and axillary flowers";  
H.; <sup>nodosely squarrose where the leaves have fallen;</sup> the branches stout, the thick-  
ened leaves half an inch long,  
or the upper ones on flowering  
shoots, shorter considerably, from  
a line to a line and a half wide,  
not narrowed at the base. Flowers  
closely semi, <sup>rather large;</sup> the closed fructiferous  
calyx a line and a half in diameter;  
its segments suborbicular, fleshy, with  
scarious margins. Seed fully a line  
long, very turgid and with perfectly  
rounded margin. What Dr. Pickering

has noted as a "chaffy 5-leaved  
calyx" is a circle of scarious <sup>ovate</sup> bract-  
lets, like those in other species of  
• This genus, only much more con-  
spicuous, and apparently always five  
in number. ~~After~~ This involucre, ~~is~~  
stellular-radiate after the fructiferous  
calyx falls off at maturity, is then  
1½ or 2 lines in diameter.



Ord. Phytolaccaceae.

● Nivina humilis, Linn., the  
var. puberula, was picked up  
at Rio Janeiro Brazil.

Arisaema coriacea Don (which includes A. drastica, Moq. (Piscunia drastica, Bertero, Poepp. & Endl. Nov. Gen. & Spec. 1, t. 43, 44), on the slope of the Andes of Chili behind Valparaiso, in fruit.

Phytolacca octandra, Linn., was collected at Sydney, New South Wales, doubtless introduced from the New World, to which the species, figured by Dillenius, belongs. Linnaeus referred to it a very different plant of Kämpfer's (P. Kämpferi, Gray in Mem. Amer. Acad.), and in collections the following is sometimes confounded with it.

Phytolacca Bogotensis, H.B.K.  
from the Organ Mountains behind  
Rio Janeiro; frequent on burned  
tracts; and Oahu and Hawaii,  
Sandwich Islands, in the moun-  
tain forests. This is the plant named  
P. Abyssinica, Hook. & Arn. Bot. Beech.  
Voy. and P. brachystachys, Moq. in  
Dc. With rather the aspect of P.  
decandra, it has the 'asperous' or glan-  
dulous-roughened rhachis ~~of~~ and pedi-  
of P. octandra (notwithstanding the contra-  
ry character of Moquin under both bra-  
chystachys and Bogotensis); from which  
the habit and the pedicels (from one to three  
lines long) distinguish it. The Brazilian  
(like Henderson's Venezuelan) specimen gen-  
erally 6-8-gynous, the ~~Hawa~~ Sandwichi-  
an plant 5-gynous; but the latter is  
sometimes 6-7-gynous. The stamens vary  
from 5 to 10 or 11. It would seem to be  
indigenous to the Sandwich Islands (Remy  
also gathered it on Molokai, no. 212),  
but very likely, was introduced and diffused  
by birds.

Ercilla spicata, Moq., probably  
a new variety of E. volubilis, A.D. Juss.,  
a fragment from around Valparaiso, Chili.

Gr.

Polygonaceae,

● Chorizanthe virgata, Benth. var. tomentosa, Benth.; characterised upon our single specimen from <sup>Andes of</sup> Chili above Santiago; remarkably different from the type of the species in the nearly muticous involucre.

Chorizanthe paniculata, Benth. Chili, in the vicinity of Valparaiso.

Chorizanthe vaginata, Benth. (of which C. frankerioides, Remy, appears to be a glabrate state), Valparaiso.

Rumex littoralis, H.B.K. (probably only R. conglomeratus, Murr.) and R. crispus, Linn., at Callao, Peru ~~introduced~~.

Rumex Maderensis, Lowe, near R. frangitaurus, Linn., was collected at Madeira.

Rumex curcifolius, Campd., on the Rio Negro, North Patagonia.

Rumex flexuosus, Banks, Holland. (Thort.), var. alismaefolius, the R. curcifolius.



folius, var.? alispicefolius, Hook. f.,  
Fl. Antarc., Lord Auckland Islands,  
(Manifestly not a form of R. curiefolius,  
apparently R. bunninghamii, var Hook-  
eri, Meisner, in Db.)

Rumex Brownii, Campd. (R.  
fimbriatus, R. Br.) New Zealand, and  
Hunter's River, New South Wales.  
Rumex acetosella, Linn., Hunter's River, New  
South Wales.  
Rumex giganteus, Kit., either  
decumbent or sarmentose-climbing, on  
the mountains of Hawaii <sup>(and Maui,</sup> Sandrich  
Islands.

Rumex longifolius, Db.?, or some  
allied species, the flowers and fruit not  
developed, on the Kaala Mountains,  
Oahu, Sandrich Islands.

Polygonum stypticum, Cham. &  
Schlecht., a form with shorter leaves, on  
the coast at Rio Negro, North Patagonia.

Polygonum chilense, C. Koch, - probably  
a mere form of P. maritimum, at Valpa-

raiso, Chili.

Polygonum acro, St. B. K., Brazil,  
near Rio Janeiro.

● Polygonum hydrospiroides, Michx.  
Peru, near Lima.

Polygonum persicarioides, St. B. K., With  
the preceding, and ~~on the coast~~ Valparai-  
so, Chili.

Polygonum imberbe, Forst., Banks Island in  
min. Rep. Jart., Society Islands.

Polygonum glabrum, Willd., Sandwich  
Islands, thought by Dr. Pickering to be  
an introduced plant.

Polygonum minus, Stud. ex Hook. f.,  
Bay of Islands, New Zealand.

Polygonum pedunculare, Wall. (P.  
imberbe, Seem. in Transl. 9, p. 258, non B.  
Banks Island), Feeje Islands, and, var.  
subcrispatum, Luxon.

Polygonum strigosum, R. Br., Stun-  
ter's River, New South Wales

Muhlenbeckia gracillima, Meisner,  
Sydney, New South Wales.

Muhlenbeckia australis, Meisner, New  
Zealand.

Muhlenbeckia complexa, Meisner,  
with the preceding.

Muhlenbeckia chilensis, Meisner, var. in-  
juvenda (Polygonum injucundum, Lindl.),  
Valparaiso, Chili; and a sterile fragment,  
probably of the same species, from Obra-  
jillo, Peru.

Coccoloba brasiliensis, Nees & Mart.,  
and C. declinata, Mart., both well des-  
cribed in the Flora Brasiliensis, from the  
vicinity of Rio Janeiro.



Ord. Thymelaeaceae.

● Pimelea virgata, Vahl, P. prostrata, Vahl, and P. Unvilleana, A. Richard, were collected, all in a sterile state, at the Bay of Islands, New Zealand.

● Pimelea linifolia, Smith, and var. abietina, Meism., at Sydney, New South Wales.

Pimelea glauca, R. Br., with the preceding species.

Pimelea ligustrina, Labill., sterile shoots only, with the preceding.

Pimelea curiflora, R. Br., several forms, ~~with the preceding~~ one of them (also collected at Wide Bay by Bidwill) with larger leaves and shaggy hairs, var. hirsuta: Sydney and Hunter's River.

Pimelea spicata, R. Br., Woolungong and Hunter's River, New South Wales.

Drapetes muscoides, Lam., at Orange Harbor, Tregia.

Nikstroemia rotundifolia, Decaisne, at Tongatabu: vide infra.

Nikströmia foetida (Daphne foetida,  
Linn. f., Forst. S. Indica, Linn.), and  
varieties, &c. at Society, Samoa, Feeje,  
and Sandwich Islands: vide infra.

Nikströmia elongata, sp. nov., at  
the Sandwich Islands: vide infra.

Nikströmia Sandwicensis, Meisn., at the  
Sandwich Islands: vide infra.

Nikströmia Maunsi, sp. nov., at  
the Sandwich Islands: vide infra.

Nikströmia luxifolia, sp. nov. at the Sandwich Islands: vide infra.  
Nikströmia phillyreaefolia, sp. nov.,  
at the Sandwich Islands: vide infra.

Passerina <sup>filiformis, &c.</sup> ericoides, Linn., at Cape  
Town, Cape of Good Hope; sterile branches.  
Struthiola erecta, Linn., and S. stri-  
ata, Lam., with the preceding.

Gnidia oppositifolia, Linn., G. jun-  
iperifolia, Lam., G. styphelioides, Meisn.,  
and G. pubescens, Berg.; with the preceding.

Arthrosolea laxus, C. A. Meyer, at  
the Cape of Good Hope.

~~ments and more or less included  
style. Both forms occur in~~

● Leucosmia Burnettiana, Benth., at  
the Tonga, Samoa, and Feeje Islands: vide  
infra.

Leucosmia Forsteri (Dais disperma,  
Forst.), at the same Islands: vide infra.

Leucosmia pubiflora, sp. nov., at  
the Feeje Island: vide infra.

Drymispermum lanceolatum, sp.  
nov., at the Feeje Islands: vide infra.



1. Wikstrœmia, Endl.

1. Wikstrœmia rotundifolia, Decaisne

W. foliis herbaceis brevissime petiolatis  
late ovalibus utrinque obtusissimis  
vel rotundatis fere glabris, venis pri-  
maris ascenduntibus tenuibus  
rete venularum vix fortioribus; ram-  
ulis cano-pubescentibus; capitulis  
paucifloris brevissime pedunculatis;  
floribus subsessilibus ~~patentibus~~ pilosi-  
usculis; calycis lobis ovatis obtusis,

Daphne rotundifolia, ~~Forst.~~ Linn. f.  
Suppl. p. 223; Forst. Prodr. p. 28.

Wikstrœmia rotundifolia, Decaisne  
in Jacquem. Voy. Bot. p. 146; Meisn.  
in Db. Prodr. 14, p. 544.

Hab. Fongatabu. Incomplete  
specimens.

The hypogynous scales (in this 4 ~~and~~  
which are connate in pairs) and the ovary,  
whether hairy or not at the apex, do not seem  
to furnish good or available <sup>specific</sup> characters. The  
species are difficult.

2. Mikstroemia foetida, Linn. f., ~~Forst.~~

M. foliis herbaceis ovato-oblongis oblon-  
gisve saepe acutis vel acutiusculis  
glabris, venis primariis patentibus rete  
copioso tenui venularum vix validiori-  
bus; fasciculis capitulisve <sup>subcapitulis vel</sup> brevispedun-  
culatis <sup>(rachis glabrata brev;</sup> alabastris ramulisque novellis  
sericeo-pubescentibus; <sup>calycis</sup> ~~perigonio~~ lobis ora-  
tis oblongisve obtusis; drupis ovoides.

Daphne foetida Linn. f. Suppl. p.  
223; Forst. Prodr. p. 28.

D. Indica, Linn. Spec.? Hook. & Arn.  
Bot. Beech. p. 68. t. 15; sed s. s. Indica.

D. Indica var. foetida (R. Br.), Guillemin.  
Reph. Jalt. p. 36.

Cassia purpurata, Linn. Mant. p. 225,  
4 R. Br. Prodr.

*Wikstroemia Forsteri*, Decaisne in  
Lacqem. Voy. Bot. p. 146.

*W. Indica*, C. S. Meyer in Bull. &  
Acad. Petrop., Meisner in Ob. Prov.  
14, p. 543.

Var. *a. Tailensis*: foliis ~~sat firmis~~ cori-  
aceo-membraceis apice vel utrinque  
acutis; rhachii capitulorum primum  
<sup>raro exescente</sup> pubescente ~~non~~ <sup>vix</sup> ~~exes~~ <sup>hand</sup> ~~elargan-~~  
~~ti~~; floribus brevissimis pedicellatis confertis.

Var. *β. Samoensis*: foliis tenuioribus mem-  
braneis plerumque acutis vel acu-  
minatis; floribus magis pedicellatis  
~~laxioribus~~ in capitulo laxiore, rhachii  
<sup>deplorata</sup> squarrosa demum exescente gla-  
bra.

Var. *γ. Niliensis*: foliis membranaceis  
<sup>ovalibus</sup> nunc firmioribus utrinque obtusis  
vel obtusissimis; floribus paucis  
glabellis.



Var. ? *Oahuensis*: foliis subcoriaceis  
oblongis acutis vel acutiusculis  
subtus glauco-pallidis; floribus per-  
paucis.

Stat. a Tahiti, to Society Islands.  
B. Samoan or Navigators' Islands.  
V. Feejee Island: also collected by  
Dr. Seemann. S. Oahu (Remy, no. 223)  
and <sup>(also Kamei?)</sup> Maui, Sandwich Islands.

The materials at hand are scanty  
in flowers and fruit. They cover perhaps  
more than one species, and those of the  
Sandwich Islands are quite doubtful.  
But <sup>perhaps</sup> ~~probably~~ all belong to a wide-spread  
<sup>and variable</sup> Oceanic species. I have not seen  
it from China, and, as it is not <sup>known</sup> ~~known~~  
from any part of India\*. I have pre-  
ferred Forster's specific name, first  
published by the younger Linnaeus.

\* The *Mikstroemia Indica* from Chit-  
lagona, distributed by Drs. Storker and Thomson,  
which I have without flowers or fruit, may  
be a narrower-leaved form of the follow-  
ing, apparently new species:—

*Mikstroemia retusa* (sp. nov.): foliis  
crassiusculis <sup>submembranaceis</sup> ~~opacis~~ cuneato-obovatis  
apice rotundatis saepius retusis ~~opacis~~  
~~subtus pallidis~~ fere glabris, subtus pal-  
lidis venis primariis adscendentibus  
rectiusculis prominulis venulis minime  
reticulatis, supra venis venulisque  
fere obsoletis; fasciculis florum sub-  
sessilibus; floribus ramulisque pu-  
bentibus; calycis lobis ovatis obtusis-  
simis tubo ~~trifido~~ multum brev-  
ioribus; drupa subglobosa. — Loo-  
Choo Island, Charles Wright in  
North Pacific Exploring Expedition. —  
Leaves about an inch and a half long.  
Flowers 5 lines long.

3. Mikstrœmia elongata, sp. nov.

• M. foliis membranaceis oblongo-lanceolatis seu ovato-oblongis acuminatis acutisve <sup>glabris</sup> subtus pl. m. glauco-pallidis (2½-4-follicaricaris), Venis primariis patentibus quam venulae laxe reticulatae magis prominulis; ramulis glabris seu glabellis; capitulis paucifloris brevissime pedunculatis, rhachi <sup>deflorata</sup> ~~mix~~ glabro haud exescente; drupa oblonga vel fusiformi.

Hab. Sandwich Islands; on the mountains of Kauai, Maui, and Oahu.

The flowers are unknown, the specimens from the three islands being in fruit. The leaves are large and long, 2½ to 4 inches by one or

one and a half in width, thin, and  
in venation resembling *M. foetida*, but  
the veinlets less reticulated and less con-  
spicuous. Inflorescence in fruit sub-  
sessile or short-pedunculate. Drupe 5  
to 6 lines long, in the dried specimens  
<sup>mostly</sup> appearing as if pointed at both ends.

(in *Db. l. c.*)  
4. Mikströemia Sandwicensis, Meisn.

*M. foliis subcoriaceis* <sup>vel</sup> *herbaceis* *ovato-oblongis* *ovatisve* *basi rotunda-*  
*tis apice* <sup>sapientius</sup> *acuminatis* *ramulisque*  
*glabris*, *venis primariis pater-*  
*tibus subtus prominulis*, *venulis*  
*obscuris*; *capitulis multifloris sub-*  
*sessilibus breviter pedunculatisve*  
*denuo spiciformibus*; *rhachi*  
*elonganda*, *reflexa* <sup>(unciali)</sup> *squarrosa* *seri-*  
*ces-pubescenti*; *calycis sericei*  
*lobis ovalibus obtusis*; *inpa ovoidea*.



Sandwich Islands, Hawaii, near  
the coast, at Byron's or Stilo Bay.

Our scanty specimens, collected  
in the same district as Macrae's,  
have been compared with his. If  
the downy <sup>(at length)</sup> and elongated rachis of  
the inflorescence should prove inconstant,  
then the doubtful var. *S.* of *W. foetida*, <sup>along with</sup> ~~may probably be joined with this.~~  
<sup>dubious</sup> several fruiting specimens, from Kauai  
and Oahu, - having nearly coriaceous  
leaves with primary veins <sup>beneath</sup> rather prominent  
and the veinlets less distinct, - may  
probably be joined with this, <sup>or perhaps</sup> ~~some of them~~ <sup>Better</sup> with *W. phyllisaeifolia*. Better  
and more abundant materials of ~~these~~  
must be had, before the Sandwichian  
*Nikstroemia* can be satisfacto-  
rily settled.

5. Nikstroemia Alva-ursi, Sp. nov.

N. procumbens; ramulis brevissime  
 • tomentosis foliosissimis; foliis crasso-  
coriaceis obovatis obtusissimis retu-  
sive (<sup>raro apiculatis</sup> subpollicaribus) brevi-  
petiolatis opacis, <sup>glabris,</sup> venis venulisque obscuris;  
capitulis subserilibus multifloris  
in spicam elongatis, rhachi (de-  
num semipollicari) deflorata tomen-  
tosa confertissime areolata; calycis  
lobis <sup>lato-</sup> ovatis obtusis <sup>tubo triplo brevioribus;</sup> drupa globosa.

Hab. Oahu, Sandwich Island,  
 on dry ridges, Kolva, Kanai (also)  
 near Honolulu; (~~Also Kanai~~ Remy,  
 no. 225.)

Branches stout, nearly prostrate,  
 crowded with leaves; the inflorescence ter-  
 minal and on very short lateral branch-  
 lets. Leaves from half an inch to an  
 inch in length, including the petiole  
 of hardly a line and a half in length, rounded

and obtuse at the summit, acute at the base, dull, very thick; the midrib rather prominent beneath, but the ascending primary veins obscure on both surfaces; the veinlets nearly obsolete. Flowers almost sessile, 3 lines long, more or less pubescent. Rhachis not square, but covered with sunken areolae separated by short tomentum. Stypogynous scales 2, two-cleft.

b. Wikstroemia luxifolia, sp. nov.

W. humilis, ramosissima; ramulis novellis tomentoso-sericeis; foliis coriaceis ovalibus obovatis que basi acutis breve-petiolatis apice plerumque rotundatis (pollicaribus <sup>vel minoribus</sup>) opacis glabris, venis primariis obscuris, venulis absolutis, costa subtus prominula; fasciculis plurifloris subsessilibus, rhachis



Deflorata vix elongata tomentoso-pu-  
lescente areolata; Calycis lobis ovato-  
lanceolatis oblongisve ~~tubo sub-~~

- ~~Dimidio brevioribus vel 2 interiori-~~  
dimidium tubi adaequantibus  
vel saepius 2 interioribus brevioribus;  
Drupa subglobosa.

Hab. Sandrich Island: Hawaii  
on the coast west of the Great Crater.  
Mountains of Kauai?

Intermediate in appearance between  
the preceding and the broad-leaved form  
of the following. The leaves, of a rather  
firm coriaceous texture have a ferru-  
gineous hue underneath. Flowers  $4\frac{1}{2}$   
lines long, almost glabrous, with larger  
and narrower lobes than in any of the  
foregoing, at least the outer pair, which  
appear considerably to exceed the inner in  
most of the few flowers we have ~~to examine~~  
for examination.

7. Mikstrœmia phillyreaefolia. <sup>Sw.</sup> sp. ~~R.~~

• M. humilis, ramosissima, undique  
glabra; foliis coriaceis ovalibus ob-  
longis seu oblongo-lanceolatis acutis  
obtusisve basi in petiolum brevem  
attenuatis, costa subtus prominente,  
venis vix prominulis seu obsoletis;  
fasciculis paucifloris subsimilibus,  
rhachi glabra, deflexa squarrosa  
paucis excrescente; calycis lobis ovato-  
~~seu oblongo-lanceolatis~~ - lanceolatis  
seu angusto-oblongis tubo dimidio  
brevioribus; drupa globosa caerulea.

Var. a. foliis viridibus latiori majori-  
bus (1-2-pollicaribus) parum rigidis,  
venis subtus saepius <sup>manifestis</sup> ~~evidentis~~, venu-  
lis obscuris.

Var. β. rigida: foliis <sup>confertissimis</sup> pallidioribus  
opacis rigide coriaceis parvulis vel  
parvisque (semi-sub-pollicari), venis  
venulisque obsoletis.

Hab. Hawaii, Sandwich Islands,  
near the ~~great~~ Great Crater and on  
Mouna Loa <sup>(var. β.)</sup> to the elevation of  
6700 feet. Also in Kene's collection,  
no. 222, the var. β.

apparently  
A low, upright shrub, with ~~very~~ rigid  
coriaceous leaves, less so in var.  $\alpha$ , -  
with flowers 3 to 4 or 5 lines long, the  
lobes of the <sup>crested glabrous</sup> calyx narrow, ~~and longer~~  
~~at length linear - oblong.~~  
~~than in any foregoing species.~~ The  
two forms would seem to be quite  
distinct; but indications of their run-  
ning together are not wanting. The  
var.  $\beta$ , doubtless inhabits more arid  
(and exposed)  
stations.



## 2. Leucosmia, Benth.

● Char. Drymispermi, nisi calycis squama faucis inserta, lobis alternis. — Flores 5-4-meri 8-10-andri, genitalibus (more quarundam Rutiaearum etc.) dimorphis.

The specimens in hand, except of L. Bourrettiana, Benth. (Sais Drymisperma, Fout.), are far from complete or good; and I cannot very well match them with Dr. Pickering's notes, which materially aid in the elucidation of the species. The flowers being sometimes tetramerous and octandrous, there is nothing to separate the genus from Drymisperma except the scales in the throat of the perianth, and these are minute in two of the species. The anthers do not prove to be versatile, as they

were said to be by Bentham, nor indeed are they so represented on his plate. So that, instead of placing the two genera under distinct tribes, as done by Meisner, after the model of those of the Thymelaeae proper, the question rather is whether Leucosmia should not be reduced to a mere section of Drymispermum. As there are at least three species of the former now known, it will be most proper to keep up Bentham's genus, at least for the present.

In all the species of which sufficient materials are extant, I find that the genitalia are dimorphous, some flowers having short filaments or nearly sessile anthers and an exserted style, others (which only have been described hitherto), slender filaments, the upper set therefore exserted, and an included style.

The stigmas correspondingly differ, that  
of the included style being usually clavate  
or almost linear, that of the exerted  
● style thicker or capitate. This  
dimorphism probably occurs in Dry-  
mispermum also; ~~but I have not the~~  
~~means materials to investigate it.~~ where  
the specific characters drawn from the  
length of the filaments and of the style  
are ~~very suspicious~~ open to much sus=  
picion. The only species which we  
have from Tongatabu is Benthania  
L. Burmettiana, which, so far as I  
know, is always 5-merous and 10-an=  
drous. But ~~from~~ <sup>in</sup> the Samoan and Fee=  
jee Islands ~~we have~~ an allied species  
was collected which has 4-merous act=  
androus flowers and truly ovate-lanceo=  
late acuminate leaves, such as Forster's  
character assigns to his Dais Disperma.  
I thought it likely, therefore, that  
Forster's species, ~~was made~~ with "flori="



his octandris decandrisque", was  
made up of these two, and I still  
incline to suppose that the charac-  
ter in the Prodr. had the ~~thin~~  
~~ner~~, ~~and~~ ovate-lanceolate, slender-  
pointed and thinner leaved octan-  
drous species in view. But, on the  
other hand, the fine drawing of Forster's  
D. Disperma (tab. 136), made on the  
spot at Tongatabu (of which, by the  
kindness of Mr. Bennet, the obliging  
curator of ~~Botany~~ the Botanical  
collections at the British Museum  
I possess a copy) exactly <sup>Benthams</sup> represents  
L. Burnettiana. The only difference  
is that Benthams plate represents the  
form with slender filaments, and Forster's,  
that with <sup>sub</sup> sessile included anthers.  
The specimen in G. Forster's Herbarium,  
acquired by the British Museum at  
Lamberts sale, consists of a single  
leaf of the same species. This leaf,

and the leaves in the drawing are by no means "enerviis"; that portion of Forster's character, therefore, remains still unaccountable.

Under these facts, Forster's Dais Di-  
sperma must be referred to Leucosmia  
Burnettiana (which should have taken  
the name of disperma), ~~and not~~ rather  
than to my L. acuminata, to which  
the specific phrase might better apply,  
but which cannot be shown to have been  
known to Forster at all.

1. Leucosmia Burnettiana, Benth.

L. foliis late ovalibus ovalis sum-  
mis nunc orbiculatis subito acumi-  
nulatis ~~subcoriaceis~~ crassiusculis;  
capitulo terminali multifloro; floris  
5-meris decandris ~~stolis ovatis~~ extus glabris);  
squamis faccialibus parvis integris;  
(antheris linearibus oblongisque;  
drupa globosa, putamine percrasso,

Leucosmia Burnettiana, Benth. in  
Stok. Land. Jour. Bot. 2, p. 231, & Bot.  
Voy. Suppl. p. 179, f. 57 (1843).

Dais disperma, Forst. Prodr. p. 33, ~~pro~~  
~~parte 3~~ fide herb. & tab. ind. 136.  
Dymispermum? Forsteri, Meisn. in Ob. Prodr.  
14, p. 605 (1856).

Hab. Tonga, Samoa, and Feejee  
Islands: "frequent along the sea-shore".

From the generic name it may  
be inferred that the plant collected by  
Mr. Hinds had white flowers; but  
Dr. Pickering notes them at the Samoan



Islands as "purple", and in his no 2 -  
which I take to be a form of the species  
with larger or longer, more oblong leaves  
- as "red-purple". It is of the latter that  
Dr. Pickering <sup>specifies</sup> ~~records~~ "the clusters of  
flowers with large bracts". These have  
disappeared from our, as from Benth-  
an's specimens. ~~leaving~~ The anthers  
are basifixed, are linear when on  
slender filaments, but shorter or barely  
oblong in the form with very short  
filaments. The latter flowers have  
the exserted style surmounted by a thick  
clavate or oblong-capitate stigma,  
while in the former the included  
stigma is much larger and more  
slender. Drupe by abortion ~~and~~ some-  
times one-seeded. ~~Further~~ I have  
nothing further to add to Mr. Benth-  
an's account of this plant.

2. Leucosmia acuminata, Sp. Nov.

L. foliis ovato-lanceolatis seu ovato-oblongis sensim vel promissa acuminatis membranaceis; capitulis terminalibus axillaribusque plurifloris; floribus tetrameris octandris extus glabris, lobis oblongis; squamis faucialibus majusculis tenuibus subincisis erosisque; antheris oblongis.

Dais disperma, Horst. l.c. quoad char. pro parte ??

Hab. Samoan and Feejee Islands.

"A shrub or small tree," "with ornamental red fruit", ~~and~~ at the Samoan Islands; ~~and~~ "the flower-clusters with two cordate involucrel bracts" (Feejee Island, if Dr. Pickering's notes are rightly matched. Leaves 4 to 6 inches long,  $1\frac{1}{2}$  to  $2\frac{1}{2}$  inches <sup>(rounded at the base,</sup> wide, a greenish with the specific phrase of Forster except as to the character "enerviis." The slender primary veins, with the midrib, are rather conspicuous, and (being of thinner texture) the reticulated veinlets are more apparent than in the foregoing species in the dried specimens, especially by transmitted light. Petioles a fourth or a third of an inch long. Peduncles axillary as well as terminal, 3 to 6 lines long, bearing on their very apex 5 to 7 sessile flowers. These are of the same structure and form as in L. Burmanniana, except, so far as examined, they are tetramerous and



octandrous. Calyx  $1\frac{1}{2}$  to 2 inches long, glabrous or nearly so externally, the 4 oblong obtuse lobes tomentulose within and also without when ~~they~~ covered in aestivation: the color not recorded, probably purple or purplish. The dimorphism is as well marked as in the preceding species: the stigma of the long style capitate and emarginate, of the short style much less enlarged. There is no fruit in the collection.

Dr. Seemann's Drymispermum subcordatum, no. 381 of which I have flowers and his D. n. sp. 382, of the Feejee Islands, have ~~rather~~ broader, less tapering or acuminate, and thicker leaves than our L. <sup>acuminata</sup> ~~torsteri~~, and retuse or ~~subcordate~~ subcordate at the base, the petioles half an inch or more in length. They perhaps belong to a quite distinct species. But the scales in the throat of the perianth are as in L. <sup>acuminata</sup> ~~torsteri~~, i.e. are larger, broader, and thinner than in L. Burnettiana, and more or less erose or incised. With the materials in hand, it is not safe to refer Seemann's plants to our species.

3. *Leucosmia pubiflora*, sp. nov.

L. foliis ovato-lanceolatis oblongisve  
sensim acutatis vel acuminatis  
subcoriaceis; <sup>pedunculis</sup> ~~capitulis~~ axillaribus  
et fasciculatis e ramos vetustiores  
pridem defoliatos; capitulis pauci-  
plurifloris; floribus pentameris de-  
candris extus pubescentibus, lobis  
oblongis; squamis faucealibus par-  
vis integris; antheris parvis brevi-  
oblongis (filamentis ~~is~~ strob. gracil-  
limis); drupa immatura ovato-  
fusiformi.

*Drymispermum* sp., no. 379, Seem.  
l.c.

(no. 380)  
*Drymispermum montanum*, Seem.,  
l.c. ? (Specim. imperfecta.)

Hab. Feejee Islands.

"A tree, 30 feet high; flowers mostly on the trunk." Met peduncles occur abundantly in the axils of the leaves of the specimens. Leaves  $2\frac{1}{2}$  to  $4\frac{1}{2}$  inches long, and from one to two wide, on petioles of 2 or 3 lines in length, rounded or acutish at the base, more or less acute or acuminate, of a rather firm coriaceous-chartaceous texture; the primary veins and the reticulated veinlets less evident than in either of the foregoing species. Peduncles an inch or less in length, about 7-flowered. The tubular calyx is 2 inches long, and resembles that of L. Fosteri, but is pentamerous in all the few flowers collected, and is beset with somewhat woolly pubescence. All our flowers have stamens <sup>with short-oblong</sup> ~~very~~ slender anthers on very slender filaments (but the upper set shorter than <sup>an</sup> the lobes of the calyx), and) included



style. Immature Dufres (loose in the collection) are 9 lines long, smooth, and tapering to each end.

That Selmanian no. 379 belongs to the present species (although I have no flowers) is evident from the foliage and from the peduncles borne on warty enlargements of old branches. His no. 380, with young buds only may be different.

### 3. Drymispermum, Reinw.

#### 1. Drymispermum lanceolatum, Sp. Nov.

D. glaberrimum; foliis breviter petio-  
latis lanceolatis utrinque subacutis  
supra nitidulis, venis venulisque  
tenuibus; fasciculis terminalibus pau-  
cifloris; calyce infundibuliformi-  
tubuloso extus glabro, lobis ovato-  
acuminatis.

Hab. Feejee Island, in the moun-  
tains behind Muthuata.


Leaves 2 or 3 inches long, including  
the short petiole, 6 to 9 lines wide, green  
both sides, the primary veins scarcely  
more conspicuous than the fine, retic-  
ulated veinlets. Peduncles <sup>(mostly)</sup> very short.

Involutional bracts ovate, caducous.  
Flowers about 5, semile, "white and fragrant,"  
a little more than an inch long, 4-merous,

octandrous; the ovate lobes of the calyx tapering into a slender acumination, tomentulose on the upper face, as also on the lower face of the two inner where they are enclosed in the bud. Stamens in two distinct ranks, just as in Leucosmia (and probably in Drymispermum generally), all on short filaments in the specimen collected; the (oblong) anthers of the upper set barely exerted out of the throat, the others deeply included. Style also deeply included; the stigma clavate-linear and glandular, resembling that of the short-styled form of Leucosmia Burmettiana. It may be inferred, therefore, that Drymispermum also has dimorphic genitalia. The fruit, which is not met with in the collection, is said to be "half an inch in length, and somewhat compressed."



Ord. Elaeagnaceae

 Elaeagnus latifolia, Linn., the var. triflora (apparently also E. Perrottetii, Schlecht. in Db.) was collected in Luzon, near Manila, and

Abotoxicon punctatum, Ruiz & Pavon (which has been referred to this order until its true affinities are determined), in the vicinity of Valparaiso, Chili.

Ord. Penaeaceae

Penaea mucronata, Linn., one of the common South African species, was picked up near Cape Town.

Ord.

Monimiaceae.

● Siparuna erythrocarpa, A. DC. (Citri-  
osma erythrocarpa, Tul.) Brazil, near  
Rio Janeiro; in fruit.

Mollinedia gracilis, Tul. Brazil, near  
Rio Janeiro; in fruit.

Hedycaria dentata, G. Forst. Bay of Islands,  
New Zealand; in fruit.

Hedycaria dorstenioides, sp. nov. ~~can. var.~~  
Tasmania and Sarawak Islands.

Boldea fragrans Gay (Kniria fragrans,  
Pavon.) Chili, near Valparaiso.

Doryphora Cassapias, Endl. Cook's River,  
New South Wales.

Nov. Gen.? Monim. - Atherospermearum. Tas-  
mania Islands. The materials too incomplete.  
A shrub or tree, glabrous, with alternate,  
oval and quite entire, Laurel-like leaves  
(3 or 4 inches long), their veinlets minutely  
reticulated; very short and thick woody ~~peduncles~~  
~~axillary~~ peduncles, either solitary or geminate  
in the axils of the leaves, and enlarging under

a perianth of 4 or 5 short and broad imbricated sepals into a globular <sup>unccolate</sup> lignesc-  
cent receptacle, which appears to bear,  
covered by the ~~perianth~~ unexpanded perianth, sev-  
eral plumose-hairy ovaries with scarcely  
any styles: but these are too little devel-  
oped to make out any structure. No  
stamens or male flowers known. Perhaps  
a Laurelia, which genus Dr. Storker  
has recently reduced to Atherosperma.



Hedy carya, Forst.

1. Hedy carya distenoides, Sp. Nov. 385.

H. foliis fere membranaceis ovatis oblongis-  
ve plerumque integerrimis longius pe-  
tiolatis; racemis terminalibus 5-7-floris;  
receptaculo cum perigonio peltato. Disci-  
formi margine subintegerrimo, <sup>dense</sup> masculo  
glabro supra antheris innumeris) vestito,  
connectivi apice dilatato truncato quam  
loculi angusti latiore; fructifero supra pu-  
bescente; drupis haud stipitatis.

Var.  $\beta$ . denticulata: foliis membranaceis  
ruriter dentatis vel denticulatis.

Stat. Sandal-wood Bay. Feejee Islands;  
with ~~the~~ a few, also with oblong leaves,  
all entire. Samoan Island; mostly with  
larger and thinner, ovate-oblong leaves,  
sometimes toothed (var.  $\beta$ .).

Of this remarkable plant I detect no record in Dr. Pickering's notes. We have the male plant in flower, and the female in fruit, both from the Samoan and the Feejee Islands. It is, doubtless, a true Hedyceara with the lobes of the calyx obsolete or reduced to seven or eight broad and slight curvatures in the male, and apparently also in the female flowers; the soon perfectly flat, Dristenia-like, circular and peltate disk of the latter from a third to half an inch in diameter, its upper surface completely <sup>and thickly</sup> covered with sessile anthers. These in structure accord with the other species of Hedyceara (the cells linear ~~and~~ oblong and opening longitudinally, except that the connective is dilated at the apex (much as in Anonaceae) into a flat summit covering the narrower cells. The ovaries in the female plant appear to be no more numerous than those of H. dentata; several <sup>may</sup> mature upon the same receptacle; the drupe ovoid, two thirds or three fourths of an inch in length, obscurely if at all stipitate, with a thin

sarcocarp and a crustaceous endocarp;  
the seed, albumen &c. as in *St. dentata*;  
but in none of the fruits examined ~~was the~~  
~~embryo~~ had the embryo been formed.

The herbage is glabrous, or the inflorescence  
minutely puberulent. Pedicels an inch  
or less in length. Leaves from 2 or 3 to 6 or  
even 7 inches long, thin or ~~thinish~~ thin-  
nish, loosely pinnately-veined and venulose,  
acute or acuminate; petioles half an inch  
to an inch in length. There is little rea-  
son to suspect that the diverse forms of  
foliage indicate more than one species.



Ord. Chloranthaceae,

Ascarina polystachya, Forst. Tahiti,  
Society Islands.

Ascarina lanceolata, Hook. f., ex  
Horn, in Bomplandia, 9, p. 259, Orolau,  
Hejee Island. (Char. of med. etc.)

Chloranthus? foliage only (with  
broadly obovate crenate and emarginate  
leaves), from the mountains of Tahiti.

Chloranthus salicifolius, Presl, Epi-  
melia, Luzon, in the Majajai Moun-  
tains.

Chloranthus brachystachys, Blume,  
Luzon, near Baños.

Medyosmum Bomplandianum, HBK.  
Brazil, near Rio Janeiro. (= ?)

Ord.      Aristolochiaceae,

1. Aristolochia, Tour.

1. Aristolochia Pickeringii, Sp. nov.

A. (Diplolobus) herbacea, volubilis,  
glabra; foliis membranaceis wa-  
to-cordatis, acumine abrupto  
brevis; floribus quasi-racemosis  
glaberrimis; perianthio recto  
unilabiato, <sup>tubo</sup> super ovarium stip-  
itatum attenuato deinde glob-  
subgloboso-inflato denique brevi-  
ter attenuato, labio lanceolato  
acuto tubum totum excedente,

Stat. Tutuila, one of the Samo-  
an or Navigators' Islands, on the  
mountain ridge, at the elevation  
of 800 feet.

This species is ~~also~~ related to  
A. acuminata, Lam., A. Tagala,  
Cham., and A. Gardichandii, Du-  
• • Chartre. From the first it dif-  
fers in its broader and thinner  
leaves, elongated axis of inflorescence,  
and straight, glabrous perianth  
with a longer and narrower, pointed  
limb; from the second by the  
broader leaves, the shape <sup>and length</sup> of the  
limb of the perianth, and by the  
narrowed portion of the tube above  
the globular inflation being scarcely  
larger than the latter, and much  
shorter than the limb; from the  
third by the whole shape <sup>and proportions</sup> of the peri-  
anth, and of the leaves. Leaves 4 to 6  
inches long. Flower about 2 inches long,  
slender; the limb nearly an inch and a  
half long, 3 or 4 lines wide. Only a  
single and poor specimen was collected.



Nepenthes, ~~Leaf~~ Pitchers  
of Nepenthes ampullaria, ~~Jack~~,  
and N. Rafflesiana, Jack were  
picked up at Singapore.

Ord. Lauracea.

• Cinnamomum camphoratum, Blume,  
var. ? Nitidum, Meissn. in Db. Foliage  
only in the collection, of two forms or species  
which nearly accord with C. camphoratum,  
one with broad and lucid leaves, evidently  
the plant recorded by Dr. Pickering as  
having bark with the flavor of Cassia, but  
stronger; the other narrow-leaved and  
glaucescent. Feejee Islands

Cinnamomum, foliage <sup>of a species</sup> only allied to  
C. brevifolium, Miguel., mentioned in Dr.  
Pickering's notes as having aromatic  
bark, Feejee Islands.

(C. pedatifidum, Meissn. in Db., Dr.  
Serran's no. 376, does not occur in our  
collection.)

Cinnamomum Zeylanicum, Breyn.,  
the officinal cinnamon, cult. at Singa-  
pore.

Persea Indica, Spreng., Madeira.

Persea gratissima, Gertn., Avocado Pear,  
Madeira: probably cultivated.

Persea Lingue, Nees, Chili, near  
Santiago.

● Apollonias Barrariensis, Nees, Madeira.  
Nesodaphne Tarairi, Hook. f. New Zealand,  
at the Bay of Islands.

Nesodaphne Tarva, Hook. f. New Zealand,  
at the Bay of Islands.

Cryptocarya Pennus, Nees. Near Val-  
paraiso, Chili.

Endiandra Sieberi, Nees? New South Wales,  
foliage only.

Ajonea saligna, Meissn. Brazil, near  
Rio Janeiro.

Ajonea elliptica, Meissn. Brazil, with  
the preceding, and too nearly related to it.

Aydenron intermedium, Meissn. Bra-  
zil, near Rio Janeiro.

Mespilodaphne parviflora, Meissn. Brazil,  
near Rio Janeiro.

Oreodaphne Langsdorffii, Meissn. Bra-  
zil, near Rio Janeiro.

Oreodaphne foetens, Nees, Madeira.



Stychnodaphne lanceolata, Kees? Brazil,  
near Rio Janeiro; in fruit.

● Camphoromœa divaricata, Kees, Brazil,  
near Rio Janeiro.

Goëppertia hisuta, Kees., var. Brazil,  
near Rio Janeiro. Idiage, also, of a  
broad-leaved species.

Tetranthera calicaris, Hook. f. (1853). J.  
Tangao, Meissn. in DC. (1854). Bay of Islands,  
New Zealand; in fruit. The berry is ovoid  
and as large as an olive; from it the calyx  
has fallen away completely, leaving no  
persistent base. According to <sup>Dr.</sup> Hooker, all  
the stamens are gland-bearing.

Tetranthera elaeocarpa, sp. nov. Feejee  
and Samoan Islands: vide infra.

Tetranthera emmaderia, sp. nov. Feejee  
Islands: vide infra.

Tetradenia (Cylicodaphne, sed calycis  
maris obsoleto Glabrarie) Pickeringii, sp.  
nov. Feejee Islands: vide infra.

Tetranthera Richii, sp. nov. Feejee Islands,  
vide infra.

Tetranthera Brackenridgii, sp. nov.  
Freeze Island: vide infra.

Tetranthera Seemannii, Meissn. Freeze  
Island, a form with much less coriaceous  
leaves: vide infra.

Litsaea dealbata, Presl, var. glabrata,  
Meissn. ? Luzon, Bantao, near Manila;  
female plants only.

Agave

Cassytha Capensis, Meissn. <sup>Hope</sup> Cape of Good  
Cassytha glabella, R.Br. Wollungung, N. S. Wales.  
Cassytha rugulosa, Meissn. Sydney, N. S. Wales.  
Cassytha pubescens, R.Br. Hunter's River, N. S. Wales.  
Cassytha paniculata, R.Br. ? Hunter's River  
and Sydney, New South Wales.

Cassytha filiformis, Linn. Society, Sand-  
wich, Samoa. Freeze, and all the Coral  
Islands. Also, apparently, Sydney, New  
South Wales.

Lauraceae indeterminate: Two species  
with only vestiges of flowers ~~and~~ fruit, ap-  
parently of the Oreodaphneae tribe, from  
the Feejee Islands. Foliage only of  
several other species, none of them answer-  
ing to Actinodaphne multiflora, Benth.  
~~nor to Tetradlea palmaticornis, Meisn.~~  
Foliage also of some Brazilian species.



1. Tetranthera elaeocarpa, sp. nov.

T. Conodaphne, Oppositifolia; glabrata vel glabra; foliis amplis ovalibus oblongis chartaceis obtusis vel acuminatis basim acutis penninerviis utrinque nitidis venosisque, ~~elegantibus~~ ~~per~~ ~~con-~~ ~~rete~~ ~~utrinque~~ prominulo elegante perfecto; inflorescentia cymosa, pedunculo communi petiolum adæquante. — a. Vitiensis: ramis venis costaque foliorum subtus tenues fusco-pubescentibus; bacca oblonga oleiformi sesquipollicari.

var. β. Samoensis: undique glabra; involucris tetraphyllis fœmineis 5-floris.

Hab. Feejee Island: "on the mountain summit behind Muthuata, at the elevation of 2000 feet"; if this be, as I suppose, the Lauracea with opposite leaves and an elongated fruit" recorded in Dr. Pickering's notes (if so accidentally misplaced under binuamum).

(but not found <sup>recorded in the notes</sup> among),  
Samoa Island with female flowers.

The specimen recorded as from the Samoa Island may be safely united with those of the Feejee Island, differing only in the pubescence <sup>of the latter</sup>, which is evidently rather deciduous. The leaves are characteristic, ~~the~~ being opposite, or rarely subopposite, mostly from 5 to 9 inches long, and 2 to 3½ broad, shining both sides; the primary veins (7-9 pairs) and costa prominent beneath and impressed above; the secondary veins and beautifully reticulated veinlets conspicuous on both faces. The best developed fruit is an inch and a half in length and olive-shaped, its calyx wholly deciduous. The Samoa plant <sup>has</sup> ~~fruit~~ female flower-buds in a small dichotomous cyme; the ~~4-leaf~~ involucre of four scales, sericeous-pubescent; a six-parted sericeous calyx and a glabrous pistil. The male flowers are unknown.

Tetranthera, Jacq.

2. Tetranthera enneaenia, Sp. Nr. (Tab. )

T. Conodaphne, Alternifolia; foliis amplis  
chartaceis late ovatis subacuminatis basi  
rotundatis vel truncatis margine revolutis  
supra glabris subtus <sup>calbo-</sup> <sup>penninerviis,</sup> glauco ~~costis~~  
utrinque 7-9 subtus fortiter expressis cum  
petiolis ramisque ferrugineo-tomentu-  
lois; umbellis in pedunculo communis  
brevisimo <sup>petiolo brevioribus;</sup> fasciculatis involucri tetra-  
phylo; calyce sexpartito; staminibus 12,  
filamentis 3 exterioribus e glandulosis, ceteris  
medio glandulas 2 subsessiles gerentibus.

Hab. Ovolau, Feejee Islands.

(By Mr. Brackenridge, who collected the specimen,  
This is noted as a "tree, thirty feet  
high", with broad-ovate leaves, 8 inches by  
five, green and smooth above, the lower  
surface glaucous-white, and nearly gla-  
brous, wholly penninerved; the very prominent



midrib and primary veins on that side  
ferruginous, these connected by rather  
conspicuous transverse <sup>leaf-buds not perulate</sup> veinlets. } Staminate  
flowers only gathered. Filaments slender,  
villous, the three of the outer series  
only destitute of glands. - By the fruit  
this may prove to be a *Cylicodaphne*,  
but that genus will hardly stand.

There is some foliage in the collection  
which may belong to the same or to a  
nearly related species; the leaves are over  
a foot in length and acute at the  
base.

Plate

Tetrastemon enneadenia.

3. Tetrastemma (Cylicodaphne) Pickeringii, Sp. Nov.

fere glabra;  
foliis ovatis submembranaceis basi  
saepius e rotundata acutis, subtus  
albo-glauco <sup>nunc subtripplinerviis</sup> ~~perinerviis~~, Costis utrin-  
que 5-6 prominalis, inferioribus in ax-  
illis barbatis, ~~imixtis tenuioribus~~ basi-  
~~laribus~~, venis venulisque tenuiter re-  
ticulatis inconspicuis; pedunculis ~~ho-~~  
~~ribus~~ petiolo <sup>multo</sup> brevioribus, masculis  
solitariis, femineis saepius binis  
3-5-floris; involucri tetraphyllo;  
(Calyce maris) nullo, staminibus  
12, filamentis omnibus infra apicem  
biglanduliferis; fruct. bacca (junior)  
calycis tubo in cupulam trunca-  
tam converso cincta.

Hab. Orolan, Feejee Island. The  
foliage also collected by Dr. Seemann (  
no. 378).

A tree or shrub, "18 to 25 feet high,"  
with slender branchlets, which are some-



what fuscous-pubescent when young.  
Leaves  $2\frac{1}{2}$  to  $4\frac{1}{2}$  inches long, obtuse, acute,  
or acuminate, the innerish, glaucous-white  
beneath; the principal veins few, the  
lowest pair basilar and commonly  
slender, the next pair usually the  
strongest, and sometimes making the  
leaf appear as if tripinnate. Pe-  
tiol slender from half an inch to an inch  
long. Common peduncles 3 lines long.  
~~Filaments~~ Filaments slender, all  
antheriferous, and with a pair of ses-  
sile glands a little below the apex,  
below sparsely villous, all but the  
three innermost connate at the base  
into a minute cup; besides which  
there is no calyx. The female plant  
we have in young fruit only: the pedic-  
els (usually 3 or 4) a line and a half long,  
short, clavate, about the length of the  
truncate capsule.

The presence of this capsule refers our  
plant to Cyllocodaphne, while the male  
flowers exhibit the character of the Glabrania  
section of Tetraneura, only the stamens are fewer.



and (as in <sup>some</sup> other Oceanic species) all  
gland-bearing.

4. Tetranthera Richii, Sp. Nov. (Tab. )

T. glabra; foliis ellipticis utrinque suba-  
cutis subcoriaceis nitidulis penninerviis,  
Costis utrinque 6-7 venisque tenuibus, rete  
subtili, petiolio gracili; pedunculis  
~~Am~~ fasciculato-racemosis in pedunculo  
communi brevissimis; involucri tetraphyllo,  
masculo 5-floro; calyce 6-partito; staminibus  
9 omnibus glanduliferis glabris.

Hab. Ovolan? Feejee Islands.

Only the male plant, and with un-  
developed flower-buds. From its resemblance  
to the next, it is likely to have the fruit of  
a true Tetranthera. Leaves about 3 inches  
long, of the same green here on both sides,

and the delicate veins and veinlets about equally  
conspicuous, but the ultimate reticulation  
of the upper surface finer, <sup>so as to be</sup> and nearly scro-  
biculate; petiole 14 to 18 lines long. Pedun-  
cles barely pubescent when young, soon gla-  
brous. Involucre glabrous.

Plate

Tetraneura a Richii.

G. Tetranchera Brackenridgii, Sp. Nov.

T. glabra; foliis ellipticis oblongis basi  
acutis subcoriaceis subtus glaucescentibus  
penninerviis, costis tenuibus, rete supra  
obsoleto infra tenui; pedunculis petiolo  
dimidio brevioribus fasciculatis absque  
pedunculo communi; involucro tetra-  
phylo bifloro; calyce 5-partito; staminibus  
12 unitis biglanduliferis; bacca ovidea  
calycis basi patelliformi imposita.

Stat. Feejee Islands: in fruit, the  
male flowers collected by Storck, no. 903  
of Dr. Seemann's list.

Leaves  $1\frac{1}{2}$  to 3 inches in length, obtusely  
acuminate or obtuse, wholly penninerved,  
the main veins 5 to 7 on each side of the  
midrib, obscure above and little conspic-  
uous beneath; the upper surface dull or  
scarcely shining; the lower glaucous or  
glaucescent, the network inconspicuous and



with much larger and looser meshes  
than in the foregoing species. Petiole 4  
to 8 lines long. Flower-buds very small.  
Berries half an inch long.

(in db.)

6. Tetranthera Seemannii, Miessn.

T. glabra; foliis parvulis oblongis ovali-  
bus ovatisve obtusis basi acutis vel ob-  
tusis subtus glaucis triplynerviis  
subtiliter reticulatis; petioli brevi; pe-  
dunculis solitariis brevibus; involucrio  
tetraphyllo 5-floro; staminibus 9 omnibus  
vel pleris glanduliferis basi pilosis. —  
Forma a. rigida: foliis rigide cori-  
aceis, rete pagina superioris obscuro  
vel oblitterato. — Forma <sup>chartacea</sup> b. foliis char-  
taceis vel tenuiter coriaceis fortiter  
triplynerviis supra lucidis utrinque  
tenuiter reticulatis.

Hab. Feejee Islands.

Our specimens are obviously of the same species as Seemann's no. 374, although the leaves are much thinner, scarcely coriaceous, greener above and white beneath, and quite strongly triple-ribbed underneath. One probably grew in the shade, and the other in dry and exposed places. Both are male plants, and with unexpanded flower-buds. <sup>Male flowers with distinct but short calyx-lobes.</sup> Female flowers unknown.

Tetranthera palmatinervia, Meisn. in Ob. 15, p. 193, not found by our naturalists, ~~which~~ is evidently related to the above and, like it, is known with male flowers only. The flowers examined by me showed no calyx-lobes, six stamens in a ring from the margin of the reduced <sup>hairy</sup> calyx-tube, and one or two less perfect ones within, - all of them gland-bearing.

ae

Ord. Potuacae

Petrophila pulchella, R. Br., Sydney,  
New South Wales.

Isopogon anethifolius, Knight & Salisb.,  
Sydney, New South Wales.

Isopogon anemonifolius, Knight & Salisb.,  
Sydney, New South Wales.

Conospermum ericifolium, Smith,  
Sydney, New South Wales.

Conospermum taxifolium, Smith, & var.  
Brownii, Meism. (the variety with unusually long  
leaves), Sydney, New South Wales.

Conospermum longifolium, Smith, & var.  
lingulatum, Meism., Sydney, New South Wales.

Symphionema montanum, R. Br., Sydney,  
New South Wales.

Personia Tora A. Cunn., Bay of Islands,  
New Zealand.

Personia linearis Andr. Bot. <sup>Rep.</sup> ~~sp.~~ I. 77.  
Cooks River, New South Wales. ~~P. linearis~~ var.  
latior, Kewington, New South Wales.



Perovnia hirsuta Pers., Sydney,  
New South Wales.

Perovnia lanceolata Andr. Bot. <sup>Rep.</sup> ~~Veget.~~  
t. 74, Sydney, New South Wales. (The stipe  
of the ovary has a more or less distinct articulation.)

Perovnia salicina Pers., ~~Labillardiere Bay~~  
~~Island New Zealand, perhaps a mistake; more~~  
~~likely to come from~~ <sup>Sydney,</sup> New South Wales.

Perovnia ferruginea, Smith, Sydney,  
New South Wales.

Grevillea sericea R.Br., Sydney, New  
South Wales.

Grevillea linearis R.Br., Sydney,  
New South Wales.

Grevillea buxifolia R.Br., Sydney,  
New South Wales.

Grevillea sphacelata R.Br., New  
South Wales.

Grevillea Caleyi ~~Calleyi~~ R.Br., New  
South Wales.

Hakea pugioformis Cav., Sydney, New South  
Wales.

Hakea acicularis R. Br., Sydney, New  
South Wales.

Hakea gibbosa Cav., Sydney, New South  
Wales.

Hakea dactyloides Cav., Sydney, New  
South Wales.

Lambertia formosa Smith, Sydney,  
New South Wales, New South Wales.

Gynerium pycnanthum Knight & Salisb.,  
Knightia excelsa R. Br., Bay of Islands,  
New Zealand, (follicle occasionally 5 & 6 sided.)

Embothrium coccineum Forst., Orange  
Harb., Terra del Fuego, Frigia.

Lomatia silaifolia R. Br., Sydney,  
New South Wales.

Banksia ericifolia Linn. f., Sydney, New  
South Wales.

Banksia spinulosa Smith, New South  
Wales, (leaves hardly a line in width.)

Banksia marginata R. Br., New South  
Wales.

Banksia integrifolia R. Br., Sydney, New  
South Wales.

Banksia latifolia R. Br., Sydney, New  
South Wales.

Banksia oblongifolia, Cav., Hunter's  
River Australia, New South Wales.

Banksia serrata, Linn. fil., Sydney,  
New South Wales. (Among the specimens  
a form occurred with the very sharply serrated  
leaves, from six to eight inches long, and seven to  
nine lines wide.)



Ord. Santalaceae,

Quinchamalium majus, Brongn.  
(● which, with Q. gracile, would appear to be not distinct from Q. chilense, Lam.), collected in Chile, from Valparaiso to the mountain region.

Arjona tuberosa, Cav.  $\beta$ . Patagonica, A. DC., at Rio Negro, North Patagonia.

Thesium australe, K. Br., at Hunter's River, New South Wales.

Thesium spicatum, Linn., <sup>and</sup> T. paniculatum, Linn., at the Cape of Good Hope.

Nanodea muscosa, Banks, at Orange Harbour, Freesia, in fruit.

Leptomeria acida, K. Br., at New South Wales.

Santalum watsoni, K. Br.?, at Sydney, New South Wales.

Santalum acuminatum, A. DC., at Sydney, New South Wales: foliage only.

Santalum Cunninghamii, Hook. f. (S. Mida, Hook. f.), at New Zealand.

Santalum Gasi, Seem, at the  
Fiji Islands: vide infra.

Santalum Freycinetianum, ~~Gaud~~  
Gaudich., and varieties, Sandrich  
Island; vide infra.

Santalum pygmaeum, sp. nov.,  
Sandrich Island; vide infra.

Exocarpos Gaudichaudii, A. DC.,  
at the Sandrich Islands; vide  
infra.

Exocarpos cupressiformis, Labill., at  
Sydney, N. New South Wales.

1. Santalum, Lin.

1. Santalum Gasi, Seem. (Tab.)

S. foliis chartaceis oblongis, ovato-oblongis lanceolatisque in juvenilibus haud raro ~~longe~~ linearibus utrinque acutiusculis; cymis plerisque lateralibus <sup>paniculatis</sup> parvis; perigonii tubo obconico, lobis ovatis ~~(saepes f.)~~; disci lobis incrassatis obvato-truncatis filamenta (antheris aequilonga) adaequantibus; <sup>stylodelongato;</sup> drupa pisiiformi, putamine levi.

Santalum Gasi, Seem. in Bon-Mandria, 9, p. 258, sine char.  
S. diversifolium, Nich in Hert.,  
nec A. Db.

Stat. Feejee Islands, at Sandalwood Bay.



This Feejean Santalum in its broad-leaved forms most resembles S. album, but it is less, if at all glaucous, and has rather smaller flowers, perhaps shorter filaments, and the anther-cells are a little narrowed at the base. The narrow-leaved forms appear to be analogous to S. album var. myrtifolium A. DC. (S. myrtifolium, Roxb.), which is said to have lanceolate leaves. The lobes of the disk are just as in S. album. Young plants produce slender, linear or linear or lanceolate, <sup>willow-like,</sup> ~~leaves~~ thin leaves, 4 or 5 inches long, and only 3 or 4 lines wide. Some of these are figured upon the plate prepared under Mr. Rich's direction, along with a flowering specimen of the broadest-leaved form.

Plate . . . . . Santalum Gasi.

A broad-leaved specimen ~~and with the~~ and  
a shoot from a young tree with long  
• and narrow leaves. Fig.

From below.

2. Santalum Freycinetianum,  
Gaudich. (Tab.)

S. foliis coriaceis vel subchartaceis  
late ovalibus <sup>varius</sup> obovatis ellipticis) oblanceolatis-oblongis; cymis terminalibus lateralibusque paniculatis multifloris; floribus ad apicem ramulorum 3-9 subsessilibus; perigonii <sup>tubo</sup> obconico lobis ovatis vix longioribus; disci lobis ovatis obtusissimis filamentis brevioribus; stylo elongato; drupa ovoides-globosa (haud semipollicari), putamine leviusculo. — Inter formas variabiles:

Var. a. Gaudichaudii; foliis obovato-oblanceolatis in petiolum brevem attenuatis.

Santalum Freycinetianum, Gaudich.  
Bot. Freyc., Voy. t. 45: foliis minus angustis,



Nar.  $\beta$ , ellipticum: foliis chartaceis vel subcoriaceis ellipticis oblongis seu ovali-obovatis, petiolo gracili.

*S. ellipticum*, Gandich. l. c. p. 442,  
A. Dc. Prodr.; Gray in Proceed.  
Amer. Acad. 4, p. .

Nar.  $\gamma$ , latifolium (Gray, l. c.): foliis magis coriaceis late ovalibus seu rotundatis, petiolo saepius brevissimis.

[*S. paniculatum*, Hook. & Arn. Bot.  
Bech. Voy. p. 94.

Hab. Sandrich Islands: <sup>on the mountains of</sup> Oahu,  
Hawaii, Maui, &c.

The Sandrich Island Sandalwood, once so important a tree commercially, is variable even beyond its congeners. The two species imperfectly characterized by Gandich and the third

by Stocker and Arnott, are pretty clearly forms of one, which was first collected by Merrie, and of which the most narrow-leaved form known was figured by Gaudichaud as S. Freycinetianum; a thinner-leaved and slender-petioled form with the inflorescence usually axillary, is his S. ellipticum; and the form with thick, rounded, short-petioled leaves, and either axillary or terminal cymes, is S. paniculatum, Stock. & Arn. The flowers are either rose-color or dull, according to circumstances, and only two or three lines in length. Stigma often 4-lobed. Drupe ovoid-globose, between a third and half an inch in length, with a thin pulp, the pericarp almost even, <sup>hardly</sup> ~~scarcely~~ at all rimose or corrugated. Embryo slender: radicle rather larger than the cotyledons.

Plate . Santalum Freycinetianum. Fig. 11, A drupe, of the natural size. 12, Vertical, and 13, transverse, section of the pericarp, seed, and embryo; enlarged.

3. Santalum pyrularium, sp. nov. (Tab.)

S. foliis (aut tenuiter aut crasso-) coriaceis oblongis ovalibusque sub-  
tus glaucis; inflorescentia <sup>floribus masculis;</sup> preceden-  
tis; perigonii tubo cylindraceo  
lobis oblongis longiori; disci lobis  
parvis angustis; stylo ultra an-  
theras oblongas exserto; drupa pyriformi (cum pe-  
dicello brevi incrassato pollicari),  
putamine valde ruminato-rimo-  
so.

Santalum pyrularium, Gray in Proceed. Amer. Acad. L.C.



*(supra lucidis virentibus)*  
Var.  $\alpha$ . foliis oblongis <sup>ter</sup> <sup>min</sup> <sup>ter</sup> coria-  
ceis, petiolo gracile; cymis ple-  
nunquam lateralibus.

Var.  $\beta$ . foliis ovalibus <sup>spaciis,</sup> crasso-coriaceis,  
petiolo brevi crasso; cymis densiflo-  
ris <sup>plerisque</sup> terminalibus.

Stat. Sandwich Islands: Var.  $\alpha$ .  
Kauai, on dry mountain ridges.  
Oahu, coll. Kuny, no. 505. Var.  $\beta$ .  
Maui, on the north bank of the crater  
of Mouna Haleakala.

The two forms of this species here  
indicated are analogous, ~~the~~  $\alpha$ . to  
the var. ellipticum, and  $\beta$ . to the  
var. latifolium of S. Freycinetia-  
nium. Only the thinner-leaved  
form was <sup>characterised</sup> ~~described~~ in the Proceed-  
ings of the American Academy, above

cited, and is here figured. The  
thick-leaved form would appear to  
owe its rigidity and its condensed  
● habit to a more arid and exposed  
locality. The characters relied  
on to distinguish the species are  
the much larger flowers (these being  
half an inch long), with a cylindri-  
cal tube which considerably exceeds  
the oblong lobes, the more elongated  
anthers, and (less definitely) the nar-  
rower lobes of the disk; also the  
larger and pear-shaped fruit (~~nearly~~  
(when well developed about an inch  
long, including the thickened pedicel  
into which it tapers), with a very  
rough rimose pericarpium. Embryo  
slender, nearly the length of the albumen.  
But of the var.  $\beta$ , we have only im-  
mature fruit, which is not so large,  
less pyriform, and does not show any  
roughness of the pericarpium.

Plate Santalum pyrular-  
ium, a, in flower, also in fruit. Fig.  
1. A flower. 2. Its upper portion laid  
open. 3. Vertical section of a flower.  
4. A stamen, outside view. 5. Inside  
view of the same. 6. Pistil, &c., the way  
vertically divided. 7. Vertical section of  
a fruit. 8. Transverse section of a fruit.  
9. Putamen, of the natural size.  
10. Embryo detached. - All the de-  
tails, except Fig. 9, more or less mag-  
nified.



2. Exocarpos, Labill.

1. Exocarpos Gaudichaudii, A. DC. (char.  
emend)

E. ramulis striatis confertis; foliis di-  
morphis, aliis squamiformibus, aliis  
maxime evolutis 1/2-uncialibus el-  
lipticis serrulatis; floribus 5-meris raro  
4-meris glabris.

Var. a. "<sup>(rigidissima,</sup> fruticosa, saepe decumbens; ramulis  
densis; foliis minimis squamiformibus  
obtusiusculis, paucis interdum evolutis  
oblongis.

Exocarpos cupressiformis, Hook. & Arn. Bot  
Beech. Voy. p. 95, non R. Br.

E. Gaudichaudii, A. DC. Prodr. 14, p. 490.

Var. β. foliosa: arborescens; ramulis laxiori-  
bus; foliis saepe evolutis semi-unc-  
ialibus ellipticis seu obtrato-oblongis.

Stat. Sandwich Islands: a. Hawaii,  
to the ~~height~~ elevation of 5500 on Mouna Loa.  
β. Oahu, on the mountains behind Honolulu.

DeCandolle, describing from Gaudichaud's specimens alone, has not noticed the expanded leaves, which show themselves occasionally on the condensed and squamaceous form, of Hawaii, but are most common in the arborescent form of Oahu. They are true leaves, as much so as those of DeCandolle's first section of the genus, although sessile or nearly so, and by a twist at the base becoming vertical. When large they are more or less evidently 3-7-nerved. The flowers are well described in the Prodrôme, but are occasionally tetramerous: they are perfectly glabrous. Anther-cells nearly bilobed-ciliate. ~~Ant~~ St. short-ovoid, 3 lines long, the base immersed in the short-obovate, red, fleshy cup.

Ord.      Euphorbiaceae.

Euphorbia piscatoria, Ait. was gathered at Madeira.

Euphorbia Peplus, Linn., also gathered at Madeira. Likewise occurs among specimens ticketed as collected at the Bay of Islands, New Zealand. If correct, it is a waif from Europe. Dr. Storker does not mention it, but speaks of E. Stelioscopia as introduced into some parts of New Zealand.

Euphorbia Aegyptiaca, Boiss. (E. Firkalii var. a. Gay); St. Jago, Cape Verde Islands.

Euphorbia portulacoides, Spreng., var. acutifolia, Boiss. Rio Negro, North Patagonia, and at San Santiago, Chili.

Euphorbia ovalifolia, Engelm. in DC. Valparaiso, Chili.

Euphorbia hypericifolia, Linn., var. E. brasiliensis, Lam. & E. bahiensis, Boiss. Rio Janeiro, Brazil.



Euphorbia pilulifera, Linn. Rio Janeiro,  
Peru near Lima. Tahiti, Society Islands.  
Also Sandwich and Feeje Islands, but not in the present collection.

● Euphorbia serperes, Kunth. Rio Negro,  
North Patagonia. Var. Indica, Engelm. Hunter's  
River, New South Wales.

Euphorbia Atoto, Forst. Samoan Islands  
and Mindanao, Philippine Islands; with nar-  
row and inconspicuous appendages to the  
glands. <sup>New South Wales?</sup> Feeje Islands, with appendages  
nearly as large as in E. Chamissoi. All  
with globose seeds! E. halophila, E. levis,  
and E. obliqua, admitted by Boissier, are ap-  
parently all forms of E. Atoto. We have  
it not from Tahiti, the Society Islands, Forster's  
habitat.

Euphorbia Taitensis, Boiss. (E. Atoto, Guill-  
em., fide Forst. ex parte.) Tahiti; also in coll.  
Pancher. Probably a mere variety of the  
next.

Euphorbia Chamissoi, Boiss. (Chiosphyllum  
Chamissoi, Kl. & Garke.) Metia, Society Islands.  
Boral Islands (Kings and Vincennes'). From  
Dr. Harvey's collection we have it only from the

Friendly Islands. To this (from the specimen of *Forster* in Brit. Museum, which has rotund-ovate leaves, and the habitat, doubtless belongs *E. origanoides*, Forst., non Linn.

*Euphorbia ramosissima*, Hook. & Arn.:-  
Some-where, Feejee Islands: sterile; but apparently the same as *Burnings*'s no. 1362, from Elisabeth Island. Probably a variety of the last.

*Euphorbia clusifolia*, Hook. & Arn.  
Oahu, Sandrich Island. (Involute glabrous within in some specimens.)

*Euphorbia Kemyi*, sp. nov. Oahu (Kemy) and Kanai, Sandrich Island.  
Vide *infra*.

~~*Euphorbia celastroides*, Biss. Oahu, behind Honolulu, Nov. 3. *var. B. longifolia*, Kanai.~~  
~~Vide *infra*.~~

*Euphorbia multiflora*, Gaudich.  
Sandrich Island, in various forms: vide *infra*.

*Euphorbia cordata*, Meyen. Sandrich Island, Oahu and Hawaii: first collected by *Menzies*. (Appendages of the glands sometimes obsolete.)

Euphorbia Tidgiana, Buss. Feejee Islands:  
also collected by Seemann. "A thick-stemmed  
tree, only 6 to 15 feet high, according to Dr.  
Pickering's notes, which state that the cap-  
● sule is trigonous. The specimens presented  
show no fruit.

Euphorbia, Same. Mentioned by Dr.  
Hooker as introduced. Sent the photo. to  
Ponsard with a leaf or two. —

Euphorbia. M. Dirca. Same.  
Sent to Bissini in list.



1. Euphorbia, Lin.

1. Euphorbia Kemzi, Sp. Nov.

E. (Trisophyllum, Gymnadenia): fruticosa, erectalis, glabra; ramis denticatis ad articulationes nodosis; stipulis in unam interpetiollarem triangularem coarctatis; foliis breviscule petiolatis oblongis vel ellipticis submembranaceis lucidis teniter crebre penninerviis integerrimis subacutis vel subacuminatis, basi rotundata fere aquali varius angustata in aquali; cymis axillaribus 1-5 cephatis subsessilibus; pedicellis folio multo brevioribus; involucris campanulatis lobis minimis, glandulis transverse ovalibus; capsulae (aut glabrae aut tomentulosae) coctis vix carinatis; semine tetrangolo obovato serbiculato rugoso.

Hab. Sandwich Islands, Kanai, a very incomplete specimen (nearly destroyed by vermin) in the collection of the Expedition, with narrowly oblong leaves decidedly unequal at the base acute base.

(much broader leaved,  
Oahu, Merry, no. 598) without fruit,  
Hanalei, Kauai, H. Mann; ~~and H. Z.~~ in-  
termediate in the foliage <sup>between</sup> the two  
other known specimens.

A very distinct species, allied in char-  
acter to E. chusiofolia; but much  
taller, inclining to be simple-stemmed  
and arborescent, glabrous, except the slight  
pubescence on the involucre, and a ~~to~~  
deciduous tomentum on the capsule  
in Mr. Mann's specimen. Leaves from  
 $1\frac{1}{2}$  to 5 inches long and from 10 to 20 lines  
wide, <sup>much</sup> thinner than in E. chusiofolia  
and the primary veins (from 20 to 30 pairs)  
more evident, but the ultimate reticula-  
tion of veinlets less distinct, the apex never  
retuse, <sup>Petioles 3-6 lines long.</sup> usually pointed. Pedicels 2 or 3  
lines long, sometimes solitary. Lobes of the  
involucre almost obsolete, emarginate. Styles  
short, their lobes short and thickish. Capsules  
in the collection of the Expedition; very small,  
acutely triangular-3-lobed, and glabrous; but  
apparently not well formed, and with no mature  
seeds: in Mr. Mann's specimen much larger,  
2 lines long, the cocci obtuse on the back. Seed  
coarsely scrobiculate-rugose.

2. Euphorbia multiformis, Gaudich.

Var.  $\beta$ . toментella, Boiss.; ramis junioribus  
et foliis tomentellis.

Var.  $\gamma$ . tenuior; glabra; ramis gracilibus; fo-  
liis ellipticis oblongisve tenuioribus  
viridioribus.

Var.  $\delta$ . lorifolia; glabra; foliis lineari-elon-  
gatis (bipollicaribus) ~~rig~~ crassis; pedicellis  
involucro 2-4-pto longioribus.

Var.  $\epsilon$ . celastroides (E. celastroides, Boiss.); glab-  
ra; foliis obvato-oblongis spatulatisve  
basi angusta truncato-subcordata; pedi-  
cellis involucro pluries longioribus.

Stat. Sandwich Islands.  $\beta$ . Oahu.  
 $\gamma$ . Oahu, in Hillbrand and Mann's collection.  
 $\delta$ . Kauai: plainly connecting the nar-  
row-leaved forms of E. multiformis with  
the next.  $\epsilon$ . Oahu, behind Honolulu: coll. ~~by~~  
by Kemy on Nihoa, and a form (var.  $\delta$ ?) on  
Kauai.



Ord. Urticaceae

Subord. Urticeae,

The admirable monograph of Weddell

Urtica Magellanica, Poir. (near the form called U. Darwinii by Dr. Hooker), Orange Harbour, I. Megia.

Urtica dioica, Linn., <sup>Chili,</sup> in the environs of Valparaiso.

Urtica australis, Hook. f., Lord Auckland Islands.

Urtica andicola, Wedd. Urtic. p. 60, in the Andes of Peru, at Baños; the leaves in size and appearance resembling the following species.

Urtica Sandwicensis, Wedd. l.c., Hawaii, Sandwich Islands; - just like

Macrae's plant; the female perigonium gamophyllous to the summit.

Eleurya ruderalis, Gaudich. (~~Sty~~  
● (Schynchorskia ruderalis, Endl. in Ann.  
Mus. Vindob. 1, t. 13), on the Coral  
Islands generally.

Eleurya interrupta, Gaudich., var.  
spicata, Wedd., Samoa and Feejee  
Islands. This was collected on Hawaii  
by Macrae, but is not in our col-  
lection from the Sandwich Islands.

Laportea Harveyi, Seemann, Sa-  
moa and Feejee Islands. Vide infra.

Laportea stimulans, Miq. (Urtica  
stimulans, Linn. f.) was gathered at the  
Mangsi Islands.

Urera glabra, Wedd. (Procris glabra,  
Hook. & Arn.), Sandwich Islands, in the  
mountains behind Honolulu. Also, var.  
mollis, Wedd. (probably a distinct species) from Mowee-ke, Hawaii,  
without flowers. Same as Macrae's plant.  
Urera Jacquinii, Wedd., Brazil, in  
the Organ Mountains near Rio Janeiro.  
The form nearly answering to U. subpeltata, Miq.

Pilea pubescens, Liebm., in the  
Organ Mountains, near Rio Janeiro,  
Brazil.

● Pilea seplroides, Hook. & Arn., Oahu,  
Maui, and Hawaii, Sandwich Islands;  
the leaves varying from two to seven  
lines in length, and mostly crenate,  
sometimes almost round to the base.

Pellionia elatostemmoides, Gandich.  
Bot. Voy. Bonite, t. 119; Wedd. Artic. t. 6;  
well marked by the long-armed  
sepals, was collected in the Majuikai  
Mountains, Luzon; the female.

Pellionia Vitiensis, sp. nov., at  
the Feejee Islands: vide infra

Procris Cephalioides, Commers. ex Wedd.  
(Elatostema lucidum & E. pedunculatum, Forst.)  
at the Society, Samoa, and Feejee Islands.  
The male flowers in the specimens are  
open-cymose, not glomerate, but the greater  
part of them on fasciculate pedicels as long  
as the calyx.



Elatostema rugosum, A. Cam., at  
the Bay of Islands, New Zealand.

Elatostema umbrosum, sp. nov.,  
Fiji Islands: vide infra.

Elatostema macrophyllum, Brongn.  
Bot. Voy. Voy. t. 45, at the Fiji Islands,  
when it was also collected by Dr. Harvey.

Elatostema serrile, Forst., at the  
Society<sup>and</sup> Samoan Islands, in various  
forms, among them a variety, from the  
Samoan Islands, with long-peduncled  
male heads, which, like the var. grande  
of Noddell, needs farther investigation  
with better materials.

Elatostema sesquifolium, Hassk., at  
Baldero, Mindanao, Philippine Islands.

Elatostema rigidum, Nodd., Luzon,  
in the Majajai Mountains.

Elatostema obtusum, Nodd., Luzon,  
in the mountains near Baños.

Elatostema podophyllum, Nodd., Luzon,

in the Majajai Mountains; sterile.

Elatostema diffusum, Rich, in  
herb. sp. nov., Savaii, Samoan Islands;  
• vide infra.

Elatostema ? at the Feejee Islands,  
not in flower, resembling E. ? filicoides  
[melius filicinum], Seemann, no. 421, also sterile: but the leaves are  
less oblique, their teeth rather fewer  
and coarser; the stipules bristle-pointed,  
dark chestnut-colored, exceeding the short  
internodes in length, and persistent; the  
branchlets not ~~marginated~~ by decurrent-  
marginated (as in Seemann's specimen).  
The stems, moreover, are woody. Apparently  
the same species occurs with larger leaves.

Boehmeria caudata, Swartz (B.  
arborescens, Gaertn.), Brazil, near Rio  
Janeiro.

Boehmeria platyphylla, Don, var.  
virgata, MDD. (B. virgata, Forst. B. inter-  
rupta, Guillemain), in various forms, at

the Society, Samuan, and Feeje Islands: vide infra.

*Cypholophus macrocephalus*, Wedd.  
(which is *Boehmeria Starveyi*, Seemann, in *Templandia*, l. c. no. 431.), at the Feeje Islands, the var. *heterophyllus*, Wedd. Also Tahiti, Society Islands, <sup>King's Island,</sup> and ~~Atoll~~, Samuan Islands, the var. *nuttii*, Wedd.; the Samuan specimens with very thin and large leaves. These are ticketed by Mr. Rich as "the Cloth-plant" of the natives. ~~It is this plant, I suppose, which is recorded by Dr. Pickering as having~~

*Nerandia melastomifolia*, Gandich., including *N. wata*, Gandich. Voy. Freyc., and ~~a form with~~ *N. sericea*\*, Gandich. Bot. Voy. Bonite, t. 133, a form with fine-fanny leaves; at the Sandwich Islands; the typical smooth form on Oahu; Middell's var.  $\beta$ . on Hawaii, and form answering to



Gaudichaud's N. sericea on the mountains of Kanai.

● Toucharia latifolia, Gaudich., Bot. Voy. Bonite, t. 94, Wedd. Artic. p. 142, t. 13; Sandwich Islands, on the mountains of Oahu behind Honolulu; also, with very large and roughish leaves, more pubescent on the ribs, on Kanai. The specimens add nothing to the published figures and the excellent description by Weddell.

Pipturus asper, Wedd. Artic., in the vicinity of Manila, Luzon.

Pipturus albidus (Boehmeria, Hook. & Arn., Sandwich Islands); vide infra.

Pipturus velutinus, Wedd., Trav., from west of the South Sea Islands; vide infra.

Pipturus gracilipes, sp. nov., Feeje Island; vide infra.

Missiessya corymbulosa, Wedd. Martie.  
(perhaps too near M. celtidifolia), at the  
Teejee and Sanwan Islands; vide infra.

Maoutia australis, Wedd. Martie.  
p. 480 (named M. Tahitensis in Dr.  
Seemann's list), at the Teejee Islands,  
also collected by Dr. Harvey.

Phenax vulgaris, Wedd., Brazil, in  
the vicinity of Rio Janeiro.

Phenax levigatus, Wedd. Martie. t. 16,  
Peru, in the vicinity of Obajilla.

Parietaria officinalis, Linn., gathered  
on the coast of Madeira.

Laportea, Gaudich.

1. Laportea Harveyi, Seemann.

L. arborea, inermis, undique glabra; foliis late ovatis subserratis prope  
basim cordata subcordatam <sup>(vel)</sup> emargin-  
atam triplinerviis; cymis pedun-  
culatis utrisque decompositis dif-  
fusis, divisionibus ultimis <sup>(conferti-)</sup> glomeru-  
floris, pedicellis feminearum brev-  
issimis carnosio-incrassatis; perigo-  
nio femineo minimo subaquali-  
ter 4-lobo; stigmatibus subulato-fili-  
formi; achenio parvo granuloso-  
asperato.

Laportea Harveyi, Seemann in  
Bumplandia, 9, p. 259, sine char.

Hab. Treeee Island, also collec-  
ted by Dr. Harvey and Dr. Seemann.



Savaii,  
(Upolu) Samoan Islands.

Although no stinging hairs appear, this is called "the stinging tree". The imperfect male specimen from the Samoan Islands is said by Dr. Pickering to have been "brought <sup>by the first king</sup> from Interior Savaii. The tree was heard of on other islands of the group, as much dreaded by the natives: the living leaves are said to sting severely, if the part exposed be wet." The Feejean specimens Dr. Pickering records among the introduced plants. They were from "a single spreading tree, thirty feet high, with the trunk a foot in diameter, planted near the mission house at Levuka. The pain from the application of the leaves is said to recur for many days." From our own collection and that of Dr. Harvey we

have male flowers only. Dr. Sellowian's  
have the fruit, which is many times  
smaller than that of L. crenulata,  
barely a line long, flat, and roughish-  
granulated, the calyx ~~almost~~ very mi-  
nute, almost obsolete. Male cyases  
very diffuse and decomposed, the  
divisions and pedicels filiform.  
Impacts obsolete.

Leaves smooth, usually very broadly  
ovate, acute, and <sup>a</sup>slightly with the  
broad base slightly cordate, 6 to 9  
inches long, 3 to 7 inches wide, either  
rather obscurely or decidedly serrate.  
This plant has much the aspect of Urena  
glabra.

Sellowian's Lapidea Wilkesii,  
said to be near L. phanerophylla, does  
not occur in our collection.

# Pellionia, Gaudich.

1. Pellionia Nitensis, sp. nov.

P. dioica; ramulis puberis glabratissimis;  
foliis (maxime disparibus, altero  
minimo rotundato, vel ~~saepius~~ abortien-  
~~te~~ homomorphis alternis) ovatis  
seu ovato-vel oblongo-lanceolatis  
plerumque caudato-acuminatis  
basi obtuso vel subacuto margine  
fere toto serratis ~~obli 3-4 t tripli~~  
3-4-plinerviis, costis venisque subtilis  
prominentibus; inflorescentiis mascu-  
lis effuso-cymosis pedunculatis, femin-  
eis <sup>in glomerulum</sup> ~~glomeratis~~ ~~apicatis~~ contractis ~~in axil-~~  
~~la~~ perilibus; perigonio femineo 4-  
5-partito, segmentis inequalibus, 2 ma-  
joribus lineari-spathulatis sub apice  
umbonatis 2-3 minoribus lineari-  
subulatis.



Itab. Freeze Islands: collected also by Dr. Harvey (female) and Dr. Hermann (sterile).

Dr. McDell cites the Freeze Islands (Milne) as a habitat of P. elatostemoides; and Dr. Hermann referred his no. 429 to that species, which it certainly is not, as the triple or quadruple-nerved leaves plainly show. It is doubtless a smooth and broad-leaved form of the present species. We have the male plant with similar large leaves (from 4 to 7 inches long and 2 to 4 inches wide), but with the ribs and veins beneath, as also the petioles and the young shoots, more or less minutely pubescent. Dr. Harvey's and our own collections have it with much smaller and narrower leaves, the former with good female flowers. The base of the leaves is generally cuneate, but in the broadest form rounded

or even obliquely subcordate, in the narrower forms more tapering into the short petiole. The larger primary veins from towards the base of the lamina are strongly ascending, ~~the first~~ forming ribs, the first on the larger side reaching hardly to the middle of the lamina, the next one higher up on the narrower side almost as stout as the midrib itself, which thus seems to fork, and it reaches to ~~the~~ near the base of the considerably prolonged acummation. This acummation is either gradual or somewhat abrupt, and is always serrate; the serratures extend downwards to near the base of the leaf, are either coarse or fine, but are more regular and sharper than in P. elastomoides. Stipules pretty large, lanceolate, attenuate, caducous. Male cyme open and

decompound, on a peduncle of twice the length of the petiole, bracteate at the divisions, the ultimate divisions or pedicels longer than the flower. Calyx 5-parted, the divisions obovate, imbricated in the bud, short-mucronate on the back; vestige of the pistil, 8s, as in the tribe. Female flowers on pedicels longer than the calyx, but all crowded into a sessile or nearly sessile, capitate, axillary glomerate, the calyx less than a line long, its larger divisions unobovate, rather than mucronate just behind the tip; the smaller divisions very slender, not longer than ~~or~~ wider than the line or staminal filaments. Achenium not seen.

However various as to the size and shape of the leaves, all the forms may confidently be referred to one species.



Elatostema, Forst., Medd.

1. Elatostema umbrosum, sp. nov.

E. caule appresso-pubero; foliis membranaceis <sup>brevis</sup> <sup>petiolatis</sup> obovato-lanceolatis acuminatis a basi obliqua acuta usque ad summum apicem grosse obtuseque dentatis penninerviis <sup>et laxe reticulatis</sup> utrinque hispidulis et asperulatis; stipulis oblongo-lanceolatis mox deciduis; capitulis brevissime pedunculatis.

Hab. Feeje Islands; <sup>in forest</sup> on the mountains of Ovalau, at the elevation of 1500 feet.

This species most resembles E. rugosum of New Zealand. But the leaves (4 or 5 inches long) are less <sup>unequal</sup> oblique at the base and more distinctly petioled and the strong serratures are broad and blunt: ~~as~~ these extend to the tip of the

acumination. The heads are sub-  
sessile, and involucrate with large bracts.  
The flowers are not sufficiently devel-  
oped to furnish characters. The  
wholly pinninerved leaves distinguish it  
from every form of *E. sessile*.

*Sp. Nov.*  
2. Elatostema diffusum, Mich in herb.

*E. ramorissimum*, glabellum; foliis lan-  
ceolatis acuminatis basi acuta vel  
hinc obtuso subsessilibus pinninerviis  
grosse serratis, dentibus utrinque 5-8;  
stipulis parvis <sup>tenui-scariosis</sup> ovatis ~~sub~~ persistentibus;  
capitulis <sup>parvis</sup> sessilibus seu masculis  
(superioribus) pedunculatis.

Var. a. agrimonioides: foliis profunde  
seu inciso-serratis, dentibus obtusi-  
usculis.

Var.  $\beta$ . angustatum: foliis lineari-lanceolatis, dentibus minoribus acutioribus subappressis.

Stat. Savaii, one of the Samoan Islands: a. in the bed of a watercourse three miles from the sea;  $\beta$ . in the deep interior forest.

Branches minutely appressed-pubescent or glabrate. Leaves sparsely and minutely hispidulous or glabrous, an inch or an inch and a half long, 3 to 5 lines wide, or narrower in var.  $\beta$ ., with 5 to 7 slender primary veins on each side of the midrib, slightly oblique at the base; the teeth very strong and salient in var. a. ( $1-1\frac{1}{2}$  lines long; in  $\beta$ . much less conspicuous and appressed. Heads small, pubescent.



Boehmeria, Jacq.

1. Boehmeria platyphylla, Don,  
(Tab.)

Var. virgata; foliis ovatis oblongisve pl. m.  
acuminatis modice crenato-dentatis  
vel crenato-serrulatis; ~~spicis~~ (basi  
raro subcordatis); spicis masculis  
paniculatis, foemineis / saepe longis-  
simis.

Urtica virgata, Forst. Prodr. p. 66.

Boehmeria virgata & B. interrupta,  
Grillen, Reph. Tait. p. 30.

B. Tartensis, Wedd. in Ann. Sci. Nat.

ser. 4, 1, p. 205  
B. interrupta (Sandwich.), Blume, Mus. Bot. Lugd.-Bat. p. 219.

B. platyphylla, var. c, virgata, Wedd.

Urtic. p. 366.

(Simeon and)

Hab. } Tahiti, Society Islands; the  
ordinary Oceanic form; and males  
only specimens collected are males, of a

Very large and broad-leaved form (6 to 8 inches long) and correspondingly long-petioled, <sup>from Lake Waikiriā.</sup> Samoan and Feeje Islands;  
● a form with smaller leaves, either glabrate or ~~pubes~~ <sup>slender,</sup> tomentulose-pubescent, and the ~~long~~ <sup>or "tub"</sup> interrupted, pendulous female spikes from one to three and a half feet long. The Oceanic specimens all have so much smaller and blunter <sup>more</sup> or crenate teeth than the Indian *B. platyphylla* that I should be disposed to restore Forster's species. But Archipelagian specimens appear to combine the two. The ~~leaf~~ <sup>tooth</sup>ing of the leaves alone distinguishes these very long-spiked specimens from the var. *macrostachya* (*Splitgerbera macrostachya*, Wight, Ic. t. 1977.)

Plate A. *Prochromeria platyphylla*, var. *virgata*: female plant, from

the Iucie Islands. Fig. 1. Female  
glomerule, enlarged. 2. A flower and its  
bract of the same, more magnified. 3. Lon-  
gitudinal section of the last. 4. Piece of  
male spike, in bud, magnified. 5. Male  
flower expanded. 6, 7, Stamens more mag-  
nified.

N. Hipocistis Nutt. all. by Mann.

## Pipturus, Nees.

### 1. Pipturus albidus.

Boehmeria albidus, Hook. & Arn. Bot.  
voy. Beech., p. 96.

Pipturus Jartensis & P. Gandichan-  
dianus (in Monogr. Artic. P. Gandi-  
chandianus), Nees, in Ann. Sci.  
Nat., ser. 4, 1, p. 197.

Hab. Sandwich Island; on Oahu



and Hawaii, up to the elevation of 5000 feet.

To this, the Tapa plant of the Sandwich Islands, I restore the original specific name given by Hooker and Arnott. For it was surely by some oversight that Meddell named it Taitensis, as there is no pretence that it was ever found at Tahiti. Meddell's species P. Gandi-chandianus, which he afterwards reduced to a variety of his P. Taitensis, is a form with thicker and rough leaves, their lower surface nearly or quite destitute of whiteness. Some of our Hawaiian specimens approach it.

2. Pipturus velutinus, Nedd.

Var.  $\alpha$ . hypoleucus: foliis subtus pube  
• ~~tenui~~ appressissima glauco-incanis.  
Pipturus velutinus & P. propinquus, Nedd. l. c.,  
cum sign.

Var.  $\beta$ . tiliaceus: foliis ovato-cordatis  
obtusius acuminatis nunc cordato-  
rotundis subtus pube molli vix  
albida velutinis, petiolis ramulis=  
que hirsuto-pubescentibus.

Stat. The ordinary state, with the  
leaves variable in size and shape,  
but always whitened ~~base~~ or white-to-  
mentose beneath, from the Society,  
Samoa, and Feejee Islands; also on King's,  
one of the Coral Islands, and Mangsi Is-  
lands. The var.  $\beta$ . on Karaka, Carls-  
hoff and Vincennes (Coral) Island, and  
Nanna-levu of the Feejee Islands, the  
latter specimens approaching the original  
of Labillardiere.



3. Pipturus gracilipes, Sp. Nov.

P. ramulis termiter puberulis max gla-  
• bratis; foliis <sup>membranaceis</sup> ellipticis seu ovali-ova-  
tis plerumque acuminatis ultra  
medium obtuse serratis ~~versus~~ <sup>versus</sup> basin  
versus rotundatam vel obtusissimam in-  
tegrissimis utrinque viridibus glabris,  
petiolo longo filiformi; glomerulis  
(foemineis) in spicas simplices fili-  
formes dispositis; perigonio foemineo  
canescenti-puberulo.

Hab. Feejee Islands.

This appears to be a very distinct species. The thin membranaceous leaves are 2 to 4 inches long, on very slender petioles of one to 4 inches in length, rather sparsely serrate, entire towards the usually rounded base, and glabrous, except a minute trace of pu-



lescence on the principal veins or ribs underneath. The ribs and veins are slender and not prominent. Female spikes simple, 2 or 3 inches long; the rachis filiform, the globular clusters small. Filiform stigma very caducous.

Missiessya, Gaudich.

1. Missiessya corymbulosa, Nodd.

Hab. Feejee and Samoan Islands (female plants; at the former also collected by Dr. Harvey and Dr. Seemann.

Plate B. Missiessya corymbulosa, Nodd., smaller-leaved form. Fig. 1. Female capitulum, enlarged. 2. A flower from the same prope magnified. 3. Vertical section, of the same